```
=> d his

     (FILE 'HOME' ENTERED AT 15:22:15 ON 08 FEB 2005)

     FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS,
     LIFESCI' ENTERED AT 15:22:55 ON 08 FEB 2005
L1          8658 S MOTOR (A) PROTEIN?
L2         15091 S KINESIN?
L3          4153 S L1 AND L2
L4           722 S HUMAN AND L3
L5       6911768 S CLON? OR EXPRESS? OR RECOMBINANT
L6           334 S L4 AND L5
L7         10363 S "KID"
L8             6 S L6 AND L7
L9             3 DUP REM L8 (3 DUPLICATES REMOVED)
L10           52 S "KINESIN-LIKE DNA BINDING PROTEIN"
L11           22 DUP REM L10 (30 DUPLICATES REMOVED)
L12       338489 S ATPASE?
L13           72 S L6 AND L12
L14           53 DUP REM L13 (19 DUPLICATES REMOVED)
                 E BERAUD C/AU
L15          490 S E3
L16            3 S L7 AND L15
L17            3 DUP REM L16 (0 DUPLICATES REMOVED)
```

```
Connecting via Winsock to STN


Welcome to STN International!  Enter x:x

LOGINID:SSSPTA1652MXM

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2


* * * * * * * * * *   Welcome to STN International   * * * * * * * * * *

 NEWS  1           Web Page URLs for STN Seminar Schedule - N. America
 NEWS  2           "Ask CAS" for self-help around the clock
 NEWS  3  SEP 01   New pricing for the Savé Answers for SciFinder Wizard within
                   STN Express with Discover!
 NEWS  4  OCT 28   KOREAPAT now available on STN
 NEWS  5  NOV 30   PHAR reloaded with additional data
 NEWS  6  DEC 01   LISA now available on STN
 NEWS  7  DEC 09   12 databases to be removed from STN on December 31, 2004
 NEWS  8  DEC 15   MEDLINE update schedule for December 2004
 NEWS  9  DEC 17   ELCOM reloaded; updating to resume; current-awareness
                   alerts (SDIs) affected
 NEWS  10 DEC 17   COMPUAB reloaded; updating to resume; current-awareness
                   alerts (SDIs) affected
 NEWS  11 DEC 17   SOLIDSTATE reloaded; updating to resume; current-awareness
                   alerts (SDIs) affected
 NEWS  12 DEC 17   CERAB reloaded; updating to resume; current-awareness
                   alerts (SDIs) affected
 NEWS  13 DEC 17   THREE NEW FIELDS ADDED TO IFIPAT/IFIUDB/IFICDB
 NEWS  14 DEC 30   EPFULL: New patent full text database to be available on STN
 NEWS  15 DEC 30   CAPLUS - PATENT COVERAGE EXPANDED
 NEWS  16 JAN 03   No connect-hour charges in EPFULL during January and
                   February 2005
 NEWS  17 JAN 26   CA/CAPLUS - Expanded patent coverage to include the Russian
                   Agency for Patents and Trademarks (ROSPATENT)

 NEWS EXPRESS  JANUARY 10 CURRENT WINDOWS VERSION IS V7.01a, CURRENT
               MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
               AND CURRENT DISCOVER FILE IS DATED 10 JANUARY 2005

 NEWS HOURS    STN Operating Hours Plus Help Desk Availability
 NEWS INTER    General Internet Information
 NEWS LOGIN    Welcome Banner and News Items
 NEWS PHONE    Direct Dial and Telecommunication Network Access to STN
 NEWS WWW      CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that
specific topic.

  All use of STN is subject to the provisions of the STN Customer
  agreement.  Please note that this agreement limits use to scientific
  research.  Use for software development or design or implementation
  of commercial gateways or other similar uses is prohibited and may
  result in loss of user privileges and other penalties.

  * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 15:22:15 ON 08 FEB 2005
```

```
=> tor (a) protein?
TOR IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> s motor (a) protein?
THIS COMMAND NOT AVAILABLE IN THE CURRENT FILE
Some commands only work in certain files.  For example, the EXPAND
command can only be used to look at the index in a file which has an
index.  Enter "HELP COMMANDS" at an arrow prompt (=>) for a list of
commands which can be used in this file.

=> file medline embase biosis biotechds scisearch hcaplus ntis lifesci
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.21       0.21

FILE 'MEDLINE' ENTERED AT 15:22:55 ON 08 FEB 2005

FILE 'EMBASE' ENTERED AT 15:22:55 ON 08 FEB 2005
COPYRIGHT (C) 2005 Elsevier Inc. All rights reserved.

FILE 'BIOSIS' ENTERED AT 15:22:55 ON 08 FEB 2005
Copyright (c) 2005 The Thomson Corporation.

FILE 'BIOTECHDS' ENTERED AT 15:22:55 ON 08 FEB 2005
COPYRIGHT (C) 2005 THE THOMSON CORPORATION

FILE 'SCISEARCH' ENTERED AT 15:22:55 ON 08 FEB 2005
Copyright (c) 2005 The Thomson Corporation.

FILE 'HCAPLUS' ENTERED AT 15:22:55 ON 08 FEB 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'NTIS' ENTERED AT 15:22:55 ON 08 FEB 2005
Compiled and distributed by the NTIS, U.S. Department of Commerce.
It contains copyrighted material.
All rights reserved. (2005)

FILE 'LIFESCI' ENTERED AT 15:22:55 ON 08 FEB 2005
COPYRIGHT (C) 2005 Cambridge Scientific Abstracts (CSA)


=> s motor (a) protein?
L1          8658 MOTOR (A) PROTEIN?

=> s kinesin?
L2         15091 KINESIN?

=> s l1 and l2
L3          4153 L1 AND L2

=> s human and l3
L4           722 HUMAN AND L3

=> s clon? or express? or recombinant
   4 FILES SEARCHED...
L5       6911768 CLON? OR EXPRESS? OR RECOMBINANT

=> s l4 and l5
L6           334 L4 AND L5
```

```
=> s "kid"
L7        10363 "KID"

=> s l6 and l7
L8            6 L6 AND L7

=> dup rem l8
PROCESSING COMPLETED FOR L8
L9            3 DUP REM L8 (3 DUPLICATES REMOVED)

=> d 1-3 ibib ab

L9   ANSWER 1 OF 3  SCISEARCH  COPYRIGHT (c) 2005 The Thomson Corporation.  on
     STN                                                    DUPLICATE 1
ACCESSION NUMBER:    2003:234290  SCISEARCH
THE GENUINE ARTICLE: 652XN
TITLE:               The human chromokinesin Kid is a plus
                     end-directed microtubule-based motor
AUTHOR:              Yajima J; Edamatsu M; Watai-Nishii J; Tokai-Nishizumi N;
                     Yamamoto T; Toyoshima Y Y (Reprint)
CORPORATE SOURCE:    Univ Tokyo, Grad Sch Arts & Sci, Dept Life Sci, Meguro Ku,
                     3-8-1 Komaba, Tokyo 1538902, Japan (Reprint); Univ Tokyo,
                     Grad Sch Arts & Sci, Dept Life Sci, Meguro Ku, Tokyo
                     1538902, Japan; Univ Tokyo, Inst Med Sci, Minato Ku, Tokyo
                     1080071, Japan
COUNTRY OF AUTHOR:   Japan
SOURCE:              EMBO JOURNAL, (3 MAR 2003) Vol. 22, No. 5, pp. 1067-1074.
                     Publisher: OXFORD UNIV PRESS, GREAT CLARENDON ST, OXFORD
                     OX2 6DP, ENGLAND.
                     ISSN: 0261-4189.
DOCUMENT TYPE:       Article; Journal
LANGUAGE:            English
REFERENCE COUNT:     53
                    *ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS*
AB       Kid is a kinesin-like DNA-binding protein known to
     be involved in chromosome movement during mitosis, although its actual
     motor function has not been demonstrated. Here, we describe the initial
     characterization of Kid as a microtubule-based motor using
     optical trapping microscopy. A bacterially expressed fusion
     protein consisting of a truncated Kid fragment (amino acids
     1-388 or 1-439) is indeed an active microtubule motor with an average
     speed of similar to160 nm/s, and the polarity of movement is plus end
     directed. We could not detect processive movement of either monomeric
     Kid or dimerizing chimeric Kid; however, low levels of
     processivity (a few steps) cannot be detected with our method. These
     results are consistent with Kid having a role in chromosome
     congression in vivo, where it would be responsible for the polar ejection
     forces acting on the chromosome arms.

L9   ANSWER 2 OF 3  SCISEARCH  COPYRIGHT (c) 2005 The Thomson Corporation.  on
     STN
ACCESSION NUMBER:    1999:734779  SCISEARCH
THE GENUINE ARTICLE: 238NR
TITLE:               The kinesin light chain gene: its mapping and
                     exclusion in mouse and human forms of inherited
                     motor neuron degeneration
AUTHOR:              Hafezparast M; Witherden A; Nicholson S; Bermingham N;
                     Mackin J; tenAsbroek A; Ball S; Peters J; Baas F; Martin J
                     E; Fisher E M C (Reprint)
CORPORATE SOURCE:    UNIV LONDON IMPERIAL COLL SCI TECHNOL & MED, SCH MED, DEPT
                     NEUROGENET, NORFOLK PL, LONDON W2 1PG, ENGLAND (Reprint);
                     UNIV LONDON IMPERIAL COLL SCI TECHNOL & MED, SCH MED, DEPT
                     NEUROGENET, LONDON W2 1PG, ENGLAND; ROYAL LONDON HOSP,
```

DEPT HISTOPATHOL, LONDON E1 1BB, ENGLAND; MRC, MAMMALIAN GENET UNIT, DIDCOT OX11 0RD, OXON, ENGLAND; UNIV AMSTERDAM, ACAD MED CTR, NEUROZINTUIGEN LAB, NL-1105 AZ AMSTERDAM, NETHERLANDS

COUNTRY OF AUTHOR: ENGLAND; NETHERLANDS

SOURCE: NEUROSCIENCE LETTERS, (24 SEP 1999) Vol. 273, No. 1, pp. 49-52.
Publisher: ELSEVIER SCI IRELAND LTD, CUSTOMER RELATIONS MANAGER, BAY 15, SHANNON INDUSTRIAL ESTATE CO, CLARE, IRELAND.
ISSN: 0304-3940.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 22

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The underlying genetic cause is known for only 10-20% of familial motor neuron disease (MND). Thus the genes involved in the aetiology of 80-90% of familial MND remain to be determined, and animal models are powerful tools for undertaking this task. We have mapped a heritable form of motor neuron degeneration in the mouse to a region that has homology to **human** chromosome 14q32.1-qter. This region contains the **kinesin** light chain gene (KLC1), which is a candidate for involvement in motor neuron degeneration because of its function in the **motor-protein kinesin**, and its neuronal **expression**. To investigate the role of KLC1 in a mouse motor neuron degeneration mutant that we are studying, we have identified mouse **Kid** gene sequences and mapped them with respect to our mutant locus. We have also investigated KLC1 in **human** patients with familial MND. Based on recombination and the absence of mutations in the coding region of KLC1, this gene can be excluded as a candidate gene in our mouse mutation and, where we have investigated, it is normal in **human** familial MND. (C) 1999 Elsevier Science Ireland Ltd. All rights reserved.

L9 ANSWER 3 OF 3 MEDLINE on STN DUPLICATE 2

ACCESSION NUMBER: 96174806 MEDLINE
DOCUMENT NUMBER: PubMed ID: 8599929

TITLE: **Kid**, a novel **kinesin**-like DNA binding protein, is localized to chromosomes and the mitotic spindle.

AUTHOR: Tokai N; Fujimoto-Nishiyama A; Toyoshima Y; Yonemura S; Tsukita S; Inoue J; Yamamota T

CORPORATE SOURCE: The Institute of Medical Science, The University of Tokyo, Japan.

SOURCE: EMBO journal, (1996 Feb 1) 15 (3) 457-67.
Journal code: 8208664. ISSN: 0261-4189.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AB017430
ENTRY MONTH: 199604
ENTRY DATE: Entered STN: 19960513
Last Updated on STN: 20000303
Entered Medline: 19960430

AB Microtubule-associated **motor proteins** are thought to be involved in spindle formation and chromosome movements in mitosis/meiosis. We have molecularly **cloned** cDNAs for a gene that codes for a novel member of the **kinesin** family of proteins. Nucleotide sequencing reveals that the predicted gene product is a 73 kDa protein and is related to some extent to the Drosophila node gene product, which is involved in chromosomal segregation during meiosis. A sequence similar to the microtubule binding motor domain of **kinesin** is

present in the N-terminal half of the protein, and its ability to bind to microtubules is demonstrated. Furthermore we show that its C-terminal half contains a putative nuclear localization signal similar to that of Jun and is able to bind to DNA. Accordingly, the protein was termed **Kid** (**kinesin**-like DNA binding protein). Indirect immunofluorescence studies show that **Kid** colocalizes with mitotic chromosomes and that it is enriched in the kinetochore at anaphase. Thus, we propose that **Kid** might play a role(s) in regulating the chromosomal movement along microtubules during mitosis.

```
=> d his

     (FILE 'HOME' ENTERED AT 15:22:15 ON 08 FEB 2005)

     FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS,
     LIFESCI' ENTERED AT 15:22:55 ON 08 FEB 2005
L1          8658 S MOTOR (A) PROTEIN?
L2         15091 S KINESIN?
L3          4153 S L1 AND L2
L4           722 S HUMAN AND L3
L5       6911768 S CLON? OR EXPRESS? OR RECOMBINANT
L6           334 S L4 AND L5
L7         10363 S "KID"
L8             6 S L6 AND L7
L9             3 DUP REM L8 (3 DUPLICATES REMOVED)

=> s "kinesin-like DNA binding protein"
L10           52 "KINESIN-LIKE DNA BINDING PROTEIN"

=> dup rem l10
PROCESSING COMPLETED FOR L10
L11           22 DUP REM L10 (30 DUPLICATES REMOVED)

=> d 1-22 ibib ab

L11   ANSWER 1 OF 22  BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2004-20378  BIOTECHDS
TITLE:            Novel isolated microtubule motor protein, useful for
                  identifying candidate agent modulating function of protein,
                  for treating cellular proliferative diseases such as cancer,
                  restenosis, cardiac hypertrophy and inflammation;
                     recombinant protein production for use in disease therapy
AUTHOR:           BERAUD C
PATENT ASSIGNEE:  CYTOKINETICS INC
PATENT INFO:      US 2004142397 22 Jul 2004
APPLICATION INFO: US 2004-797893 9 Mar 2004
PRIORITY INFO:    US 2004-797893 9 Mar 2004; US 1999-295612 20 Apr 1999
DOCUMENT TYPE:    Patent
LANGUAGE:         English
OTHER SOURCE:     WPI: 2004-552562 [53]
AB    DERWENT ABSTRACT:
      NOVELTY - An isolated microtubule motor protein (I) having greater than
      75% amino acid sequence identity to any one of 4 fully defined sequences
      (S1) of 370, 512, 346 and 487 amino acids as given in the specification,
      as measured using a sequence comparison algorithm, is new.
           DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for: (1)
      an isolated nucleic acid sequence (II) encoding (I), where the activity
      of (I) includes microtubule stimulated ATPase activity, and the nucleic
      acid comprises a sequence which has greater than 75% sequence identity to
      any one of 4 fully defined sequences of 1115, 1538, 1041 and 1464 base
      pairs (S2) as given in the specification, as measured using sequence
      comparison algorithm; (2) treating cellular proliferative diseases,
      involves administering a candidate agent identified using (I); and (3)
```

inhibiting (I) such as **kinesin-like DNA binding protein** (Kid) or its fragment, involves contacting (I) with a candidate agent identified using (I).

BIOTECHNOLOGY - Preferred Protein: (I) has an amino acid sequence chosen from any one of (S1). Preferred Nucleic Acid: (II) encodes any one of (S1). (II) has a nucleotide sequence chosen from any one of (S2).

ACTIVITY - Cytostatic; Vasotropic; Cardiant; Antiinflammatory; Immunosuppressive; Antiarthritic; Gastrointestinal-Gen.; Vulnerary; Osteopathic. No supporting data is given.

MECHANISM OF ACTION - Inhibitor of (I) such as Kid (claimed).

USE - (I) is useful for identifying a candidate agent as a modulator of function of (I) such as Kid, or its fragment, which involves adding a candidate agent to a mixture comprising (I) that directly or indirectly produces ADP or phosphate under conditions which normally allow the production of ADP or phosphate, subjecting the mixture to a reaction that uses the ADP or phosphate as a substrate under conditions which normally allow the ADP or phosphate to be utilized, and determining the level of activity of the reaction, where a change in the level between the presence and absence of the candidate agent indicates a modulator of the function of (I). The determining step is carried out by fluorescent, luminescent, radioactive, or absorbance readout. The level of activity of the reaction is determined at multiple time points. In the above method, several agents are added. (I) directly produces phosphate or ADP. (I) comprises an amino acid sequence, which has greater than 70% sequence identity with any one of (S1). The candidate agent identified using (I) is useful for treating cellular proliferative diseases such as cancer, hyperplasia, restenosis, cardiac hypertrophy, immune disorders and inflammation (claimed). The compound identified by using (I) is useful for treating autoimmune disease, arthritis, inflammatory bowel disease, solid tumors such as skin carcinomas, breast carcinomas, cervical carcinomas, testicular carcinomas, bronchogenic carcinoma, alveolar carcinoma, adenocarcinoma, tumor of bone such as osteogenic sarcoma, multiple myeloma, malignant melanoma, etc. The compound identified by using (I), is also useful for treating wound and inflammation.

ADMINISTRATION - The candidate agent identified using (I), is administered by oral, subcutaneous, intravenous, intranasal, transdermal, intraperitoneal, intramuscular, intrapulmonary, vaginal, rectal or intraocular route. No specific dosage details are given.

ADVANTAGE - (I) enables high throughput screening of compounds which in turn is useful for treating cellular proliferation disorders.

EXAMPLE - No relevant example is given. (27 pages)

L11 ANSWER 2 OF 22 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2004-19859 BIOTECHDS
TITLE: New isolated microtubule motor protein, useful for screening modulators for treating cellular proliferation disorders such as cancer, hyperplasias, restenosis, cardiac hypertrophy, immune disorders and inflammation;
microtubule motor protein isolation for use in disease therapy and drug screening
AUTHOR: BERAUD C
PATENT ASSIGNEE: CYTOKINETICS INC
PATENT INFO: US 6762043 13 Jul 2004
APPLICATION INFO: US 2002-93317 6 Mar 2002
PRIORITY INFO: US 2002-93317 6 Mar 2002; US 1999-295612 20 Apr 1999
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2004-532491 [51]
AB DERWENT ABSTRACT:

NOVELTY - An isolated microtubule motor protein, where the protein comprises a sequence comprising 370, 512, 346 or 487 amino acids (SEQ ID NO: 2, 4, 6, or 8, respectively) given in the specification, is new.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a kit for screening for modulators of a motor protein comprising a protein

comprising SEQ ID NO: 2, 4, 6, or 8 which has microtubule stimulated ATPase activity, and instruction for testing for ATPase activity of the protein.

WIDER DISCLOSURE - Disclosed are: (a) methods to identify candidate agents that bind to a target protein or act as a modulator of the binding characteristics or biological activity of a target protein; (b) modulators of the target protein; and (c) methods of treating cellular proliferation disorders such as cancer, hyperplasias, restenosis, cardiac hypertrophy, immune disorders and inflammation, for treating disorders associated with **kinesin-like DNA**
binding protein (KID) and for inhibiting KID.

BIOTECHNOLOGY - Preferred Kit: The protein comprises SEQ ID NO: 2, 4, 6, or 8. The kit further comprises reaction tubes, a stationary multiwell plate, preferably a 384-well microtiter plate, or an enzyme system for monitoring ADP or phosphate level, where the enzyme system comprises pyruvate kinase and lactate dehydrogenase or a luciferin-luciferase system. Preferred Microtubule Motor Protein: The protein comprises SEQ ID NO: 2, 4, 6 or 8.

USE - For screening for modulators of a motor protein useful for treating cellular proliferation disorders such as cancer, hyperplasias, restenosis, cardiac hypertrophy, immune disorders and inflammation, for treating disorders associated with KID and for inhibiting KID, for treating autoimmune disease, arthritis, graft rejection, inflammatory bowel disease, and proliferation induced after medical procedures including surgery, angioplasty and the like. The methods are also useful for diagnostic applications.

EXAMPLE - No suitable example given.(26 pages)

L11 ANSWER 3 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:908145 HCAPLUS
DOCUMENT NUMBER: 142:20612
TITLE: Microarray analyses identify JAK2 tyrosine kinase as a key mediator of ligand-independent gene expression
AUTHOR(S): Wallace, Tiffany A.; VonDerLinden, Dannielle; He, Kai; Frank, Stuart J.; Sayeski, Peter P.
CORPORATE SOURCE: Department of Physiology and Functional Genomics, University of Florida College of Medicine, Gainesville, FL, 32610, USA
SOURCE: American Journal of Physiology (2004), 287(4, Pt. 1), C981-C991
CODEN: AJPHAP; ISSN: 0002-9513
PUBLISHER: American Physiological Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Mice lacking a functional Janus kinase 2 (JAK2) allele die embryonically, indicating the mandatory role of JAK2 in basic developmental cellular transcription. Currently, however, the downstream target genes of JAK2 are largely unknown. Here, in vitro conditions were created using a cell line lacking JAK2 expression. Microarray anal. was then used to identify genes that are differentially expressed as a result of the presence, or absence, of JAK2. The data identified 621 JAK2-dependent genes as having at least a twofold change in expression. Surprisingly, these genes did not require ligand-dependent activation of JAK2 but merely its expression in the cell. Thirty-one of these genes were found to have a greater than sevenfold change in expression levels, and a subset of these were further characterized. These genes represent a diverse cluster of ontol. functions including transcription factors, signaling mols., and cell surface receptors. The expression levels of these genes were validated by Northern blot and/or quant. RT-PCR anal. in both the JAK2 null cells and cells expressing a JAK2-dominant neg. allele. As such, this work demonstrates for the first time that, in addition to being a key mediator of ligand-activated gene transcription, JAK2 can perhaps also be viewed as a critical mediator of basal level gene expression.

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 4 OF 22 MEDLINE on STN DUPLICATE 1
ACCESSION NUMBER: 2003280952 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12692123
TITLE: The second microtubule-binding site of monomeric kid enhances the microtubule affinity.
AUTHOR: Shiroguchi Katsuyuki; Ohsugi Miho; Edamatsu Masaki; Yamamoto Tadashi; Toyoshima Yoko Y
CORPORATE SOURCE: Department of Life Sciences, Graduate School of Arts and Sciences, The University of Tokyo, 3-8-1 Komaba, Meguro-ku, Tokyo, 153-8902, Japan.
SOURCE: Journal of biological chemistry, (2003 Jun 20) 278 (25) 22460-5.
Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200308
ENTRY DATE: Entered STN: 20030617
Last Updated on STN: 20030822
Entered Medline: 20030821

AB Chromokinesin Kid (**kinesin-like DNA-binding protein**) localizes on spindles and chromosomes and has important roles in generating polar ejection force on microtubules in the metaphase. To understand these functions of Kid at the molecular level, we investigated molecular properties of Kid, its oligomeric state, interaction with microtubules, and physiological activity in vitro. Kid expressed in mammalian cells, as well as Kid expressed in Escherichia coli, was found to be monomeric. However, Kid cross-linked microtubules in an ATP-sensitive manner, suggesting that Kid has a second microtubule-binding site in addition to its motor domain. This was ascertained by binding of Kid fragments lacking the motor domain to microtubules. The interaction of the second microtubule-binding site was weak in a nucleotide-insensitive manner. KmMT of the ATPase activity of Kid was lower than that of the fragments lacking the second microtubule-binding site. Moreover, the velocity of Kid movement in vitro was not affected by the second microtubule-binding site, which is consistent with the weak binding of this site to microtubules. The second microtubule-binding site would be important to enhance the affinity to microtubules for the monomeric motor, Kid. Because the amino acid sequence of this region is highly conserved among species, it seems to have essential roles for the functions of Kid in vivo.

L11 ANSWER 5 OF 22 MEDLINE on STN DUPLICATE 2
ACCESSION NUMBER: 2003116461 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12606572
TITLE: The human chromokinesin Kid is a plus end-directed microtubule-based motor.
AUTHOR: Yajima Junichiro; Edamatsu Masaki; Watai-Nishii Junko; Tokai-Nishizumi Noriko; Yamamoto Tadashi; Toyoshima Yoko Y
CORPORATE SOURCE: Department of Life Sciences, Graduate School of Arts and Sciences, The University of Tokyo, 3-8-1 Komaba, Meguro-ku, Tokyo 153-8902, Japan.
SOURCE: EMBO journal, (2003 Mar 3) 22 (5) 1067-74.
Journal code: 8208664. ISSN: 0261-4189.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200304
ENTRY DATE: Entered STN: 20030313
Last Updated on STN: 20030417

Entered Medline: 20030415

AB Kid is a **kinesin-like DNA-binding protein** known to be involved in chromosome movement during mitosis, although its actual motor function has not been demonstrated. Here, we describe the initial characterization of Kid as a microtubule-based motor using optical trapping microscopy. A bacterially expressed fusion protein consisting of a truncated Kid fragment (amino acids 1-388 or 1-439) is indeed an active microtubule motor with an average speed of approximately 160 nm/s, and the polarity of movement is plus end directed. We could not detect processive movement of either monomeric Kid or dimerizing chimeric Kid; however, low levels of processivity (a few steps) cannot be detected with our method. These results are consistent with Kid having a role in chromosome congression in vivo, where it would be responsible for the polar ejection forces acting on the chromosome arms.

L11 ANSWER 6 OF 22 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on STN

ACCESSION NUMBER: 2003:429701 BIOSIS
DOCUMENT NUMBER: PREV200300429701
TITLE: Interaction with microtubules and active movement of chromokinesin Kid.
AUTHOR(S): Shiroguchi, Katsuyuki [Reprint Author]; Ohsugi, Miho; Edamatsu, Masaki [Reprint Author]; Yamamoto, Tadashi; Toyoshima, Yoko Y. [Reprint Author]
CORPORATE SOURCE: Graduate School of Arts and Sciences, University of Tokyo, 3-8-1 Komaba, Meguro-ku, Tokyo, 153-8902, Japan
SOURCE: Biophysical Journal, (February 2003) Vol. 84, No. 2 Part 2, pp. 444a. print.
Meeting Info.: 47th Annual Meeting of the Biophysical Society. San Antonio, TX, USA. March 01-05, 2003. Biophysical Society.
ISSN: 0006-3495 (ISSN print).
DOCUMENT TYPE: Conference; (Meeting)
Conference; (Meeting Poster)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 17 Sep 2003
Last Updated on STN: 17 Sep 2003

L11 ANSWER 7 OF 22 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on STN

ACCESSION NUMBER: 2003:81352 BIOSIS
DOCUMENT NUMBER: PREV200300081352
TITLE: Motility of Kid(**kinesin like DNA binding protein**).
AUTHOR(S): Shiroguchi, Katsuyuki [Reprint Author]; Edamatsu, Masaki [Reprint Author]; Toyoshima Y., Yoko [Reprint Author]
CORPORATE SOURCE: Department of Life Sciences, Graduate School of Arts and Sciences, University of Tokyo, Tokyo, Japan
SOURCE: Cell Structure and Function, (August 2002) Vol. 27, No. 4, pp. 300. print.
Meeting Info.: Fifty-fifth Annual Meeting of the Japan Society for Cell Biology. Yokohama, Japan. May 21-23, 2002.
ISSN: 0386-7196 (ISSN print).
DOCUMENT TYPE: Conference; (Meeting)
Conference; (Meeting Poster)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 6 Feb 2003
Last Updated on STN: 6 Feb 2003

L11 ANSWER 8 OF 22 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on STN DUPLICATE 3

ACCESSION NUMBER: 2002:178028 BIOSIS
DOCUMENT NUMBER: PREV200200178028
TITLE: Phosphorylation of Kid, **kinesin-like DNA binding protein**, regulates its chromosomal localization in M phase.
AUTHOR(S): Tokai, Noriko Nishizumi [Reprint author]; Ohsugi, Miho [Reprint author]; Yamamoto, Tadashi [Reprint author]
CORPORATE SOURCE: Dept. of Oncology, Inst. of Med. Sci., Univ. of Tokyo, 4-6-1 Shirokanedai, Minato-ku, Tokyo, 108-8639, Japan
SOURCE: Molecular Biology of the Cell, (Nov, 2001) Vol. 12, No. Supplement, pp. 436a. print.
Meeting Info.: 41st Annual Meeting of the American Society for Cell Biology. Washington DC, USA. December 08-12, 2001. American Society for Cell Biology.
CODEN: MBCEEV. ISSN: 1059-1524.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 6 Mar 2002
Last Updated on STN: 6 Mar 2002

L11 ANSWER 9 OF 22 MEDLINE on STN DUPLICATE 4
ACCESSION NUMBER: 2001097121 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11146551
TITLE: SIAH-1 interacts with alpha-tubulin and degrades the kinesin Kid by the proteasome pathway during mitosis.
AUTHOR: Germani A; Bruzzoni-Giovanelli H; Fellous A; Gisselbrecht S; Varin-Blank N; Calvo F
CORPORATE SOURCE: Unite 363 INSERM, Institut Cochin de Genetique Moleculaire, H pital Cochin, Paris, France.
SOURCE: Oncogene, (2000 Dec 7) 19 (52) 5997-6006.
Journal code: 8711562. ISSN: 0950-9232.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200102
ENTRY DATE: Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010201

AB SIAH-1, a human homologue of the Drosophila seven in absentia (Sina), has been implicated in ubiquitin-mediated proteolysis of different target proteins through its N-terminal RING finger domain. SIAH-1 is also induced during p53-mediated apoptosis. Furthermore, SIAH-1-transfected breast cancer cell line MCF-7 exhibits an altered mitotic process resulting in multinucleated giant cells. Now, using the two-hybrid system, we identified two new SIAH interacting proteins: Kid (**kinesin like DNA binding protein**) and alpha-tubulin. We demonstrate that SIAH is involved in the degradation of Kid via the ubiquitin-proteasome pathway. Our results suggest that SIAH-1 but not its N-terminal deletion mutant, affects the mitosis by an enhanced reduction of kinesin levels. Our results imply, for the first time, SIAH-1 in regulating the degradation of proteins directly implicated in the mitotic process.

L11 ANSWER 10 OF 22 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on STN
ACCESSION NUMBER: 2001:219441 BIOSIS
DOCUMENT NUMBER: PREV200100219441
TITLE: Phosphorylation of chromokinesin kid by Cdc2 kinase is required for chromosomal localization.
AUTHOR(S): Ohsugi, Miho [Reprint author]; Nishizumi-Tokai, Noriko [Reprint author]; Yamamoto, Tadashi [Reprint author]
CORPORATE SOURCE: Department of Oncology, Institute of Medical Science,

University of Tokyo, Tokyo, 108-8639, Japan
SOURCE: Cell Structure and Function, (December, 2000) Vol. 25, No. 6, pp. 478. print.
Meeting Info.: Fifty-third Annual Meeting of the Japan Society for Cell Biology. Fukuoka, Japan. October 31-November 02, 2000. Japan Society for Cell Biology.
CODEN: CSFUDY. ISSN: 0386-7196.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 9 May 2001
Last Updated on STN: 18 Feb 2002

L11 ANSWER 11 OF 22 MEDLINE on STN DUPLICATE 5
ACCESSION NUMBER: 2000426132 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10966104
TITLE: The Xenopus chromokinesin Xkid is essential for metaphase chromosome alignment and must be degraded to allow anaphase chromosome movement.
COMMENT: Comment in: Cell. 2000 Aug 18;102(4):399-402. PubMed ID: 10966101
AUTHOR: Funabiki H; Murray A W
CORPORATE SOURCE: Department of Physiology, University of California, San Francisco 94143, USA.. hironori@mcb.harvard.edu
SOURCE: Cell, (2000 Aug 18) 102 (4) 411-24.
Journal code: 0413066. ISSN: 0092-8674.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200009
ENTRY DATE: Entered STN: 20000922
Last Updated on STN: 20000922
Entered Medline: 20000912

AB At anaphase, the linkage betweeh sister chromatids is dissolved and the separated sisters move toward opposite poles of the spindle. We developed a method to purify metaphase and anaphase chromosomes from frog egg extracts and identified proteins that leave chromosomes at anaphase using a new form of expression screening. This approach identified Xkid, a Xenopus homolog of human Kid (**kinesin-like DNA binding protein**) as a protein that is degraded in anaphase by ubiquitin-mediated proteolysis. Immunodepleting Xkid from egg extracts prevented normal chromosome alignment on the metaphase spindle. Adding a mild excess of wild-type or nondegradable Xkid to egg extracts prevented the separated chromosomes from moving toward the poles. We propose that Xkid provides the metaphase force that pushes chromosome arms toward the equator of the spindle and that its destruction is needed for anaphase chromosome movement.

L11 ANSWER 12 OF 22 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on STN
ACCESSION NUMBER: 2000:419446 BIOSIS
DOCUMENT NUMBER: PREV200000419446
TITLE: Motor function in the mitotic spindle.
AUTHOR(S): Heald, Rebecca [Reprint author]
CORPORATE SOURCE: Department of Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA, 94720, USA
SOURCE: Cell, (August 18, 2000) Vol. 102, No. 4, pp. 399-402. print.
CODEN: CELLB5. ISSN: 0092-8674.
DOCUMENT TYPE: Article
General Review; (Literature Review)
LANGUAGE: English
ENTRY DATE: Entered STN: 4 Oct 2000

Last Updated on STN: 8 Jan 2002

L11 ANSWER 13 OF 22 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on STN

ACCESSION NUMBER: 2001:311694 BIOSIS
DOCUMENT NUMBER: PREV200100311694
TITLE: SIAH-1 interacts with alpha-tubulin and degrades Kid by the proteasome pathway altering the mitotic process.
AUTHOR(S): Bruzzoni-Giovanelli, Heriberto [Reprint author]; Germani, Antonia; Fellous, Arlette [Reprint author]; Gisselbrecht, Sylvie; Varin-Blank, Nadine; Calvo, Fabien [Reprint author]
CORPORATE SOURCE: Pharmacologie, Institut Universitaire d'Hematologie Saint-Louis, INSERM-E9932, Paris, France
SOURCE: Blood, (November 16, 2000) Vol. 96, No. 11 Part 1, pp. 290a. print.
Meeting Info.: 42nd Annual Meeting of the American Society of Hematology. San Francisco, California, USA. December 01-05, 2000. American Society of Hematology.
CODEN: BLOOAW. ISSN: 0006-4971.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 27 Jun 2001
Last Updated on STN: 19 Feb 2002

AB SIAH-1 and SIAH-2 (SIAHs) are the vertebrate homologues of the Drosophila seven in absentia (Sina), a ring finger (C3HC4)-containing protein required for the R7 photoreceptor development and for a correct adult lifespan. Although the exact function of the mammalian SIAH proteins has not been elucidated, these proteins have been implicated in ubiquitin-mediated degradation of their partners. We previously showed that SIAH-1 is a p53 and p21Waf-1 inducible gene in mouse and human leukemia cells, and overexpression of SIAH-1 in a cancer cell line blocked cellular growth by altering the mitotic process during nuclei separation and cytokinesis, resulting in multinucleated giant cells. We also demonstrated that SIAH-2 interaction with the hematopoietic protein Vav inhibited Vav-induced NFAT dependent transcription and JNK activation, by a mechanism independent of proteolytic degradation via the ubiquitin-proteasome pathway. Now, using the yeast two-hybrid genetic approach, we identified alpha-tubulin and Kid (**Kinesin like-DNA binding protein**) as new SIAH interacting proteins. Kid is related to the Drosophila nod gene product involved in chromosomal segregation during meiosis. The N-terminal half of Kid protein binds to microtubules and its C-terminal domain is able to bind DNA. Kid is distributed all through the length of chromosomes during metaphase as well as along spindle structures (fibers and poles) suggesting a possible role for Kid in regulating the chromosomal movement along microtubules during mitosis. We demonstrated a specific interaction of SIAH-1 with alpha-tubulin and Kid both in vivo and in vitro. Stable overexpression of SIAH-1 resulted in a severe decrease in Kid protein levels that was restored by treatment with specific proteasome inhibitors. We demonstrate that SIAH is involved in the degradation of Kid via the ubiquitin proteasome pathway. Our results suggest that SIAH-1, but not its terminal deletion mutant, affects the mitotic process by controlling kinesin levels. This implies SIAH proteins, for the first time, in cytokinesis regulatory process. Since SIAH-1 is a p53-induced gene during apoptosis and is implicated in mitosis regulation, it may be one candidate protein implicated in coupling the cell-suicide responses to the check point machinery involved in later cell cycle steps.

L11 ANSWER 14 OF 22 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation. on STN

ACCESSION NUMBER: 1999:980192 SCISEARCH
THE GENUINE ARTICLE: 255MW
TITLE: Phosphorylation of **kinesin-like**

DNA binding protein kid during
M phase
AUTHOR: Ohsugi M (Reprint); Nishizumi N T; Inoue J; Yamamoto T
CORPORATE SOURCE: UNIV TOKYO, INST MED SCI, MINATO KU, TOKYO 1088639, JAPAN
COUNTRY OF AUTHOR: JAPAN
SOURCE: MOLECULAR BIOLOGY OF THE CELL, (NOV 1999) Vol. 10, Supp. [S], pp. 743-743.
Publisher: AMER SOC CELL BIOLOGY, PUBL OFFICE, 9650 ROCKVILLE PIKE, BETHESDA, MD 20814.
ISSN: 1059-1524.
DOCUMENT TYPE: Conference; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 0

L11 ANSWER 15 OF 22 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on STN
ACCESSION NUMBER: 2000:38417 BIOSIS
DOCUMENT NUMBER: PREV200000038417
TITLE: Phosphorylation of **kinesin-like DNA binding protein** Kid during M phase.
AUTHOR(S): Ohsugi, Miho [Reprint author]; Nishizumi, Noriko Tokai [Reprint author]; Inoue, Junichiro [Reprint author]; Yamamoto, Tadashi [Reprint author]
CORPORATE SOURCE: Institute of Medical Science University of Tokyo, 4-6-1 Shirokane-Dai, Minato-ku, Tokyo, 108-8639, Japan
SOURCE: Molecular Biology of the Cell, (Nov., 1999) Vol. 10, No. SUPPL., pp. 129a. print.
Meeting Info.: 39th Annual Meeting of the American Society for Cell Biology. Washington, D.C., USA. December 11-15, 1999. The American Society for Cell Biology.
CODEN: MBCEEV. ISSN: 1059-1524.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 19 Jan 2000
Last Updated on STN: 31 Dec 2001

L11 ANSWER 16 OF 22 MEDLINE on STN DUPLICATE 6
ACCESSION NUMBER: 1999009323 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9790757
TITLE: Human genes for KNSL4 and MAZ are located close to one another on chromosome 16p11.2.
AUTHOR: Song J; Murakami H; Yang Z Q; Koga C; Adati N; Murata T; Geltinger C; Saito-Ohara F; Ikeuchi T; Matsumura M; Itakura K; Kanazawa I; Sun K; Yokoyama K K
CORPORATE SOURCE: RIKEN, 3-1-1 Koyadai, Tsukuba, Ibaraki, 305-0074, Japan.
SOURCE: Genomics, (1998 Sep 15) 52 (3) 374-7.
Journal code: 8800135. ISSN: 0888-7543.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-D89880
ENTRY MONTH: 199812
ENTRY DATE: Entered STN: 19990115
Last Updated on STN: 19990115
Entered Medline: 19981207
AB KNSL4 (Kid; **kinesin-like DNA-binding protein**) is a member of the kinesin family that is involved in spindle formation and the movements of chromosomes during mitosis and meiosis. Myc-associated zinc finger protein (MAZ) participates in both the initiation and the termination of transcription of target genes. We

isolated genomic DNA clones that encoded KNSL4 and MAZ from a human cosmid library. Sequence analysis revealed that the two genes were very close to one another. The distance between the two genes was only 1. 2 kb, and this intervening 1.2-kb region was extremely GC-rich. The gene for KNSL4 spanned 16 kb and consisted of 14 exons and 13 introns, while the gene for MAZ spanned 6 kb and consisted of 5 exons and 4 introns. The two genes were mapped to chromosome 16p11.2 by fluorescence in situ hybridization. Copyright 1998 Academic Press.

L11 ANSWER 17 OF 22 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation. on STN
ACCESSION NUMBER: 97:55236 SCISEARCH
THE GENUINE ARTICLE: WB018
TITLE: Evidence for a Xenopus homologue of Kid, a **kinesin -like DNA binding protein**
AUTHOR: Jain S K (Reprint); Tokai N; Yamamoto T; Mitchison T J
CORPORATE SOURCE: UNIV CALIF SAN FRANCISCO, DEPT MOL & CELLULAR PHARMACOL, SAN FRANCISCO, CA 94143; UNIV TOKYO, INST MED SCI, TOKYO 108, JAPAN
COUNTRY OF AUTHOR: USA; JAPAN
SOURCE: MOLECULAR BIOLOGY OF THE CELL, (DEC 1996) Vol. 7, Supp. [S], pp. 2306-2306.
Publisher: AMER SOC CELL BIOL, PUBL OFFICE 9650 ROCKVILLE PIKE, BETHESDA, MD 20814.
ISSN: 1059-1524.
DOCUMENT TYPE: Conference; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 0

L11 ANSWER 18 OF 22 MEDLINE on STN DUPLICATE 7
ACCESSION NUMBER: 96174806 MEDLINE
DOCUMENT NUMBER: PubMed ID: 8599929
TITLE: Kid, a novel **kinesin-like DNA binding protein**, is localized to chromosomes and the mitotic spindle.
AUTHOR: Tokai N; Fujimoto-Nishiyama A; Toyoshima Y; Yonemura S; Tsukita S; Inoue J; Yamamota T
CORPORATE SOURCE: The Institute of Medical Science, The University of Tokyo, Japan.
SOURCE: EMBO journal, (1996 Feb 1) 15 (3) 457-67.
Journal code: 8208664. ISSN: 0261-4189.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AB017430
ENTRY MONTH: 199604
ENTRY DATE: Entered STN: 19960513
Last Updated on STN: 20000303
Entered Medline: 19960430

AB Microtubule-associated motor proteins are thought to be involved in spindle formation and chromosome movements in mitosis/meiosis. We have molecularly cloned cDNAs for a gene that codes for a novel member of the kinesin family of proteins. Nucleotide sequencing reveals that the predicted gene product is a 73 kDa protein and is related to some extent to the Drosophila node gene product, which is involved in chromosomal segregation during meiosis. A sequence similar to the microtubule binding motor domain of kinesin is present in the N-terminal half of the protein, and its ability to bind to microtubules is demonstrated. Furthermore we show that its C-terminal half contains a putative nuclear localization signal similar to that of Jun and is able to bind to DNA. Accordingly, the protein was termed Kid (**kinesin-like DNA**

binding protein). Indirect immunofluorescence studies show that Kid colocalizes with mitotic chromosomes and that it is enriched in the kinetochore at anaphase. Thus, we propose that Kid might play a role(s) in regulating the chromosomal movement along microtubules during mitosis.

L11 ANSWER 19 OF 22 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on STN

ACCESSION NUMBER: 1997:96609 BIOSIS
DOCUMENT NUMBER: PREV199799395812
TITLE: Evidence for a Xenopus homologue of Kid, a **kinesin -like DNA binding protein**.
AUTHOR(S): Jain, S. K. [Reprint author]; Tokai, N.; Yamamoto, T.; Mitchison, T. J.
CORPORATE SOURCE: Dep. Cellular Molecular Pharmacol., Univ. California San Francisco, San Fransicso, CA 94143-0450, USA
SOURCE: Molecular Biology of the Cell, (1996) Vol. 7, No. SUPPL., pp. 397A.
Meeting Info.: Annual Meeting of the 6th International Congress on Cell Biology and the 36th American Society for Cell Biology. San Francisco, California, USA. December 7-11, 1996.
CODEN: MBCEEV. ISSN: 1059-1524.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
Conference; (Meeting Poster)
LANGUAGE: English
ENTRY DATE: Entered STN: 3 Mar 1997
Last Updated on STN: 3 Mar 1997

L11 ANSWER 20 OF 22 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation. on STN

ACCESSION NUMBER: 95:831590 SCISEARCH
THE GENUINE ARTICLE: TF513
TITLE: KID, A NOVEL **KINESIN-LIKE DNA -BINDING PROTEIN**, IS INVOLVED IN CHROMOSOME SEGREGATION DURING MITOSIS
AUTHOR: TOKAI N (Reprint); FUJIMOTONISHIYAMA A; INOUE J; YAMAMOTO T
CORPORATE SOURCE: UNIV TOKYO, INST MED SCI, TOKYO 108, JAPAN
COUNTRY OF AUTHOR: JAPAN
SOURCE: MOLECULAR BIOLOGY OF THE CELL, (NOV 1995) Vol. 6, Supp. S, pp. 2092.
ISSN: 1059-1524.
DOCUMENT TYPE: Conference; Journal
FILE SEGMENT: LIFE
LANGUAGE: ENGLISH
REFERENCE COUNT: No References

L11 ANSWER 21 OF 22 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on STN

ACCESSION NUMBER: 1996:53940 BIOSIS
DOCUMENT NUMBER: PREV199698626075
TITLE: KID, a novel **kinesin-like DNA binding protein**, is involved in chromosome segregation during mitosis.
AUTHOR(S): Tokai, Noriko; Fujimoto-Nishiyama, Akiko; Inoue, Junichiro; Yamamoto, Tadashi
CORPORATE SOURCE: Inst. Med. Sci., Univ. Tokyo, Tokyo 108, Japan
SOURCE: Molecular Biology of the Cell, (1995) Vol. 6, No. SUPPL., pp. 360A.
Meeting Info.: Thirty-fifth Annual Meeting of the American Society for Cell Biology. Washington, D.C., USA. December

9-13, 1995.
CODEN: MBCEEV. ISSN: 1059-1524.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
Conference; (Meeting Poster)
LANGUAGE: English
ENTRY DATE: Entered STN: 2 Feb 1996
Last Updated on STN: 2 Feb 1996

L11 ANSWER 22 OF 22 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on STN
ACCESSION NUMBER: 1995:96610 BIOSIS
DOCUMENT NUMBER: PREV199598110910
TITLE: Kid: A **kinesin-like DNA-binding protein**.
AUTHOR(S): Tokai, Noriko; Nishiyama, Akiko; Inoue, Jun-Ichiro; Yamamoto, Tadashi
CORPORATE SOURCE: Dep. Oncol., Inst. Med. Sci., Univ. Tokyo, Tokyo 108, Japan
SOURCE: Cell Structure and Function, (1994) Vol. 19, No. 6, pp. 487.
Meeting Info.: Forty-seventh Annual Meeting of the Japan Society for Cell Biology. Nagasaki, Japan. September 28-30, 1994.
CODEN: CSFUDY. ISSN: 0386-7196.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 1 Mar 1995
Last Updated on STN: 1 Mar 1995

```
=> s ATPase?
L12     338489 ATPASE?

=> d his

     (FILE 'HOME' ENTERED AT 15:22:15 ON 08 FEB 2005)

     FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS,
     LIFESCI' ENTERED AT 15:22:55 ON 08 FEB 2005
L1          8658 S MOTOR (A) PROTEIN?
L2         15091 S KINESIN?
L3          4153 S L1 AND L2
L4           722 S HUMAN AND L3
L5       6911768 S CLON? OR EXPRESS? OR RECOMBINANT
L6           334 S L4 AND L5
L7         10363 S "KID"
L8             6 S L6 AND L7
L9             3 DUP REM L8 (3 DUPLICATES REMOVED)
L10           52 S "KINESIN-LIKE DNA BINDING PROTEIN"
L11           22 DUP REM L10 (30 DUPLICATES REMOVED)
L12       338489 S ATPASE?

=> s l6 and l12
L13          72 L6 AND L12

=> dup rem l13
PROCESSING COMPLETED FOR L13
L14           53 DUP REM L13 (19 DUPLICATES REMOVED)

=> d 1-53 ibib ab

L14   ANSWER 1 OF 53  BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2005-01886  BIOTECHDS
```

TITLE: New microtubule **motor protein**, useful for diagnosing, preventing, and treating cancer, autoimmune disease, arthritis, graft rejection, inflammatory bowel disease, or neurological disorders; isolation of a **recombinant motor protein** useful for drug screening and use of the encoding gene for disease therapy

AUTHOR: BERAUD C; CRAVEN A; YU M; SAKOWICZ R; PATEL U A; DAVIES K A
PATENT ASSIGNEE: CYTOKINETICS INC

PATENT INFO: US 2004229238 18 Nov 2004
APPLICATION INFO: US 2003-723147 25 Nov 2003
PRIORITY INFO: US 2003-723147 25 Nov 2003; US 2000-594655 15 Jun 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2004-813238 [80]

AB DERWENT ABSTRACT:

NOVELTY - An isolated microtubule **motor protein**, where the protein has greater than 70% amino acid sequence identity to a sequence of 864 or 338 amino acids (SEQ ID NOS: 2 or 4) as measured using a sequence comparison algorithm, is new.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a method for screening for modulators of HsKip3a.

WIDER DISCLOSURE - Also disclosed is an **expression** vector comprising the nucleic acid encoding the **motor protein**

.

BIOTECHNOLOGY - Preferred Method: Screening for modulators of HsKip3a comprises: (a) providing a HsKip3a protein that has: (i) an amino acid sequence that has greater than 90% sequence identity to the amino acid sequence of SEQ ID NOS: 2 or 4 as measured using a sequence comparison algorithm; and (ii) microtubule stimulated **ATPase** activity; and (b) contacting the HsKip3a protein with a candidate agent that is present at a test concentration and with the candidate agent that is present at a control concentration; and (c) assaying for the level of HsKip3a activity at the test and control concentrations, where the HsKip3a activity is a HsKip3a binding activity or **ATPase** activity, and a change in HsKip3a activity between the test and control concentration indicates that the candidate agent is a modulator of HsKip3a. Screening occurs in a multi-well plate as part of a high-throughput screen. The HsKip3a protein comprises a HsKip3a motor domain, the motor domain comprising amino acids 5-342 or 26-354 of SEQ ID NO: 2. The HsKip3a protein has greater than 95% or 98% sequence identity to the amino acid sequence of SEQ ID NOS: 2 or 4. The assay conducted at the control concentration is conducted in the absence of inhibitor. Assaying comprises detecting ADP formation and phosphate formation. Alternatively, the method comprises providing a HsKip3a protein that has: (i) an amino acid sequence that has greater than 90% sequence identity to the amino acid sequence of SEQ ID NOS: 2 or 4 as measured using a sequence comparison algorithm; and (ii) microtubule stimulated **ATPase** activity, and contacting HsKip3a with a candidate agent and determining whether the candidate agent modulates the **ATPase** activity of HsKip3a.

ACTIVITY - Cytostatic; Immunosuppressive; Antiarthritic; Antiinflammatory; Gastrointestinal-Gen; Neuroprotective. No biological data given.

MECHANISM OF ACTION - Gene Therapy.

USE - The microtubule **motor protein**, nucleic acids, compositions and methods are useful for diagnosing, preventing, and treating cancer, autoimmune disease, arthritis, graft rejection, inflammatory bowel disease, neurological disorders, disorders of vesicular transport, and proliferation induced after medical procedures. The kits and methods are useful for screening for modulators of HsKip3a.

ADMINISTRATION - Administration is by oral, subcutaneous, intravenous, intranasal, transdermal, intraperitoneal, intramuscular, intrapulmonary, vaginal, rectal, or intraocular. No dosage given.

EXAMPLE - No relevant example given. (38 pages)

L14 ANSWER 2 OF 53 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:355085 HCAPLUS
DOCUMENT NUMBER: 140:369944
TITLE: **Human** tissue-specific housekeeping genes identified by **expression** profiling
INVENTOR(S): Aburatani, Hiroyuki; Yamamoto, Shogo
PATENT ASSIGNEE(S): NGK Insulators, Ltd., Japan
SOURCE: PCT Int. Appl., 372 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004035785	A1	20040429	WO 2002-JP10753	20021016
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2004229233	A1	20041118	US 2003-684422	20031015
PRIORITY APPLN. INFO.:			US 2002-418614P P	20021016
			WO 2002-JP10753 W	20021016

AB Housekeeping genes commonly **expressed** in 35 different **human** tissues, oligonucleotide probes and DNA microarrays containing them, are disclosed.
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 3 OF 53 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
DUPLICATE 1
ACCESSION NUMBER: 2003-24203 BIOTECHDS
TITLE: New nucleic acids encoding HsKif2x, a **human** **kinesin motor protein**, useful as a drug target for e.g. cancer, immune disorders, inflammation and cardiac hypertrophy; **recombinant** protein production via plasmid **expression** in host cell for use in disease therapy
AUTHOR: BERAUD C; FREEDMAN R
PATENT ASSIGNEE: CYTOKINETICS INC
PATENT INFO: US 6582958 24 Jun 2003
APPLICATION INFO: US 2000-722129 24 Nov 2000
PRIORITY INFO: US 2000-722129 24 Nov 2000; US 2000-722129 24 Nov 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2003-656429 [62]
AB DERWENT ABSTRACT:
NOVELTY - An isolated **human** HsKif2x nucleic acid (I) comprising a heterologous promoter operably linked to a nucleic acid segment encoding a **motor protein** which: (1) has microtubule-stimulated **ATPase** activity; and (2) comprises an amino acid sequence with more than 90% sequence identity to fully defined sequences (S1) of 492 or 303 amino acids as given in the specification, as measured using a sequence comparison algorithm.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the

following: (1) an **expression** vector comprising (I); and (2) a host cell comprising the vector.

WIDER DISCLOSURE - Also disclosed as new are: (1) antibodies to HsKif2x; (2) modulators of the target protein including agents for the treatment of cellular proliferation, including cancer, hyperplasias, restenosis, cardiac hypertrophy, immune disorders and inflammation; (3) identifying a candidate agent as a modulator of the activity of a target protein; and (4) kits for screening for modulators of the target protein.

BIOTECHNOLOGY - Preferred Nucleic Acid: The nucleic acid comprises a fully defined sequence (S2) of 1476 or 909 bp as given in the specification. The promoter is constitutive or inducible. The nucleic acid has more than 95, preferably more than 98% sequence identity to S2 as measured using a sequence comparison algorithm. The **motor protein** specifically binds to polyclonal antibodies to a protein of S1. Preparation: The nucleic acid is prepared according to standard **recombinant** methods.

ACTIVITY - Cytostatic; Antiinflammatory; Immunomodulatory. No biological data given.

MECHANISM OF ACTION - None given.

USE - The HsKif2x nucleic acid is useful as a potential drug target for diseases such as cancer, inflammation, immune disorders and hyperplasia.

EXAMPLE - No suitable example given.(19 pages)

L14 ANSWER 4 OF 53 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2003-19036 BIOTECHDS
TITLE: New **human** microtubule **motor protein** (**kinesin motor protein** KinI-3) and nucleic acid, useful for diagnosing, preventing or treating e.g. cancer, restenosis, inflammation, neurological disorders or disorders of vesicular transport;
vector-mediated gene transfer and **expression** in host cell for **recombinant** protein for use in disease diagnosis and therapy
AUTHOR: BERAUD C; GUO J; FREEDMAN R; PATEL U A; DAVIES K A
PATENT ASSIGNEE: CYTOKINETICS
PATENT INFO: US 2003036075 20 Feb 2003
APPLICATION INFO: US 2002-159151 31 May 2002
PRIORITY INFO: US 2002-159151 31 May 2002; US 2000-675227 29 Sep 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2003-492112 [46]
AB DERWENT ABSTRACT:

NOVELTY - An isolated microtubule **motor protein**, which has greater than 70 % sequence identity to a 1368 amino acid sequence (P1), given in the specification as measured using a sequence comparison algorithm, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following: (1) an isolated nucleic acid sequence: (a) encoding the microtubule **motor protein** described above, where the motor the protein's activity includes microtubule depolymerization activity; or (b) comprising a sequence which has greater than 60 % sequence identity with nucleotide comprising 6409 base pairs (N1), given in the specification; (2) an **expression** vector comprising the nucleic acid encoding the microtubule **motor protein**; (3) a host cell transfected with the vector of (2); (4) screening for modulators of KinI-3 comprising: (a) providing the biologically active KinI-3; (b) contacting the biologically active KinI-3 with a candidate agent in a test and control concentration; and (c) assaying for the level of KinI-3 activity, where the KinI-3 activity consists of binding activity or **ATPase** activity, and where a change in activity between the test and control concentration indicates a modulator; and (5) a compound that modulates KinI-3, which is identified using the method of

(4).

BIOTECHNOLOGY - Preferred Protein: The protein is a **human kinesin motor protein**, which is designated KinI-3, and has the sequence P1. The protein comprises an amino acid sequence of a KinI-3 motor domain. The encoded protein specifically binds to polyclonal antibodies to a protein comprising P1, or to polyclonal antibodies to KinI-3. The protein specifically binds to polyclonal antibodies generated against a motor domain of KinI-3. Preferably, the nucleic acid encodes P1, and has a nucleotide sequence comprising N1. The nucleic acid selectively hybridizes under stringent hybridization conditions to N1. Preferred Method: In method (4), the screening occurs in a multi-well plate as part of a high-throughput screen.

ACTIVITY - Cytostatic; Vasotropic; Immunomodulator; Antiinflammatory; Vulnerary; Antirheumatic; Antiarthritic; Antiarteriosclerotic; Antigout; Antipsoriatic; Antidiabetic; Ophthalmological; Immunosuppressive; Neuroprotective. No biological data is given.

MECHANISM OF ACTION - **ATPase** Modulator; Microtubule **Motor Protein** Modulator.

USE - The KinI-3 protein, nucleic acid, or its modulator, is useful for diagnosing, preventing or treating cellular proliferation (e.g. cancers (e.g. bronchogenic, carcinoma, Kaposi's sarcoma, lymphoma, leukemia, osteoid osteoma, glioblastoma, etc.), hyperplasia, restenosis, cardiac hypertrophy, immune disorders or inflammation), neurological disorders, or disorders of vesicular transport. These disorders also include atherosclerosis, hemangiomas, acoustic neuromas, vascular malfunctions, abnormal wound healing, rheumatoid arthritis, Bechet's disease, gout, psoriasis, diabetic retinopathy, corneal graft rejection, glaucoma, Osler Webber syndrome, etc. The protein, nucleic acid or the KinI-3 modulator regulates cell cycle, as well as cellular proliferation. The KinI-3 protein or nucleic acid is also useful for screening therapeutic agents or KinI-3 modulators, which may be used for treating the above-mentioned diseases or disorders.

EXAMPLE - No relevant examples given. (31 pages)

L14 ANSWER 5 OF 53 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2003-21870 BIOTECHDS
TITLE: New **human kinesin motor proteins** and polynucleotides, useful for diagnosing, treating or preventing cancers (e.g. cardiac, gastrointestinal, blood or skin cancers), neurological disorders, and disorders of vesicular transport; involving vector-mediated gene transfer and **expression** in host cell for use in gene therapy
AUTHOR: BERAUD C; FREEDMAN R
PATENT ASSIGNEE: CYTOKINETICS INC
PATENT INFO: US 6562610 13 May 2003
APPLICATION INFO: US 2000-722862 27 Nov 2000
PRIORITY INFO: US 2000-722862 27 Nov 2000; US 2000-641806 17 Aug 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2003-584407 [55]
AB DERWENT ABSTRACT:

NOVELTY - A new isolated **human kinesin motor protein**, HsKif7, having a fully defined sequence of 342 (P1) or 337 (P2) amino acids given in the specification, or an amino acid sequence having a grater than 95% amino acid sequence identity to P1 or P2 as measured using a sequence comparison algorithm and has microtubule stimulated **ATPase** activity.

WIDER DISCLOSURE - Also disclosed as new are the following: (1) an isolated nucleic acid encoding the HsKif7; (2) an **expression** vector comprising the nucleic acid; (3) identifying a candidate agent as a modulator of target protein activity; (4) modulators of target protein; and (5) kits for screening for modulators of the target

protein.

BIOTECHNOLOGY - Preferred Protein: The protein specifically binds to polyclonal antibodies generated against P1, or to polyclonal antibodies generated against P2. The protein has greater than 98% amino acid sequence identity to P1 as measured using a sequence comparison algorithm, and has an **ATPase** activity. The protein is tagged with a polyhistidine epitope tag, polyhistidine-glycine epitope tag, a flu HA polypeptide epitope tag, a c-myc epitope tag, Flag-peptide, KT3 epitope peptide, tubulin epitope peptide, or the T7 gene 10 protein peptide tag.

ACTIVITY - Cytostatic; Neuroprotective; Vasotropic; Cardiant; Immunosuppressive; Antiinflammatory.

MECHANISM OF ACTION - Gene therapy; **kinesin** modulator.

USE - The **human kinesin motor protein** is useful for diagnosing, treating or preventing cancers (e.g. cardiac, gastrointestinal, nervous system, gynecological, blood or skin cancers), neurological disorders, and disorders of vesicular transport.

ADMINISTRATION - Administration can be oral, subcutaneous, intravenous, intranasal, transdermal, intraperitoneal, intramuscular, intrapulmonary, vaginal, rectal or intraocular. No dosage given.

EXAMPLE - No relevant example given. (24 pages)

L14 ANSWER 6 OF 53 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:633171 HCAPLUS
DOCUMENT NUMBER: 139:160778
TITLE: Frontal cortex and/or cerebellum differentially **expressed** genes, psychiatric disorder-associated genes, and diagnostic and therapeutic uses
INVENTOR(S): Sklar, Pamela; Petryshen, Tracey; Tsan, Gloria; Lehar, Joseph
PATENT ASSIGNEE(S): Whitehead Institute for Biomedical Research, USA
SOURCE: U.S. Pat. Appl. Publ., 22 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003152972	A1	20030814	US 2002-292382	20021108
PRIORITY APPLN. INFO.:			US 2001-348028P P	20011108

AB The disclosure relates to methods of diagnosing psychiatric disorders (e.g., schizophrenia, bipolar disorder), methods of classifying a sample as derived from an individual having a psychiatric disorder, methods of identifying compds. for use in modulating psychiatric disorders, methods of modulating psychiatric disorders and methods of assessing efficacy of treatment of psychiatric disorders. The disclosure also relates to oligonucleotide microarrays containing probes for genes which are differentially **expressed** between schizophrenic individuals and normal individuals and to oligonucleotide microarrays containing probes for genes which are differentially **expressed** between bipolar individuals and normal individuals. The disclosure also relates to methods of classifying a sample as a pre-frontal cortex and/or cerebellum sample, as well as to oligonucleotide microarrays containing probes for genes which are differentially **expressed** in pre-frontal cortex and cerebellum.

L14 ANSWER 7 OF 53 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:707805 HCAPLUS
DOCUMENT NUMBER: 139:241990
TITLE: Characterization, sequence, and drug screening use of

a **human kinesin motor protein** HsKif16a

INVENTOR(S): Beraud, Christophe; Freedman, Richard
PATENT ASSIGNEE(S): Cytokinetics, Inc., USA
SOURCE: U.S., 27 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6617144	B1	20030909	US 2000-718854	20001122
PRIORITY APPLN. INFO.:			US 2000-718854	20001122

AB The invention provides isolated nucleic acid and amino acid sequences of a new **human kinesin motor protein**, HsKif16a, antibodies to HsKif16a, methods of screening for HsKif16a modulators using biol. active HsKif16a, and kits for screening for HsKif16a modulators. HsKif16a is a member of the **kinesin** superfamily of **motor proteins** and the Unc-104 subfamily. Functionally, HsKif16a has microtubule-stimulated **ATPase** activity, and motor activity that is ATP dependent. The cDNA sequence and the encoded amino acid sequence of HsKif16a are provided. The qual. tissue **expression** pattern of HsKif16a in a variety of tissues is shown. A drug screening assay based on the microtubule-stimulated **ATPase** activity of HsKif16a is disclosed. The polypeptides and polynucleotides of the invention can be useful in the diagnosis, prevention, and treatment of cancer, neurol. disorders, and disorders of vesicular transport.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 8 OF 53 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:92354 HCAPLUS
DOCUMENT NUMBER: 138:149362
TITLE: Characterization, sequence and drug screening use of a **human kinesin motor protein** KinI-3
INVENTOR(S): Beraud, Christophe; Guo, Jun; Freeman, Richard; Patel, Umesh A.; Davies, Katherine A.
PATENT ASSIGNEE(S): Cytokinetics, Inc., USA
SOURCE: U.S., 42 pp., Cont.-in-part of U.S. Ser. No. 675,227.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6514738	B1	20030204	US 2001-967908	20010928
US 6461855	B1	20021008	US 2000-675227	20000929
US 6432659	B1	20020813	US 2000-724510	20001127
US 6436686	B1	20020820	US 2000-723216	20001127
US 2003036075	A1	20030220	US 2002-159151	20020531
US 6794178	B2	20040921		
PRIORITY APPLN. INFO.:			US 2000-675227 A2	20000929
			US 2001-967908 A3	20010928

AB The present invention is based on the discovery of a new **human kinesin motor protein**, KinI-3, the polynucleotide encoding KinI-3, and the diagnostic and therapeutic use of these compds. ATP-dependent microtubule depolymn. activity of KinI-3 is shown. **Expression** profile of KinI-3 in a variety of normal and

diseased tissues is provided. The invention shows that **kinesin** KinI-3 is upegulated in lung, colon and breast cancers. The invention provides isolated cDNA and amino acid sequences of KinI-3, antibodies to KinI-3, methods of screening for KinI-3 modulators using biol. active KinI-3, and kits for screening for KinI-3 modulators.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 9 OF 53 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:556780 HCAPLUS

DOCUMENT NUMBER: 139:243613

TITLE: M Phase Phosphoprotein 1 Is a **Human** Plus-end-directed **Kinesin**-related Protein Required for Cytokinesis

AUTHOR(S): Abaza, Aouatef; Soleilhac, Jean-Marc; Westendorf, Joanne; Piel, Matthieu; Crevel, Isabelle; Roux, Aurelien; Pirollet, Fabienne

CORPORATE SOURCE: Laboratoire du Cytosquelette, Departement Reponse et Dynamique Cellulaires, Commissariat a l'Energie Atomique-Grenoble, INSERM U366, Grenobl, 38 054, Fr.

SOURCE: Journal of Biological Chemistry (2003), 278(30), 27844-27852
CODEN: JBCHA3; ISSN: 0021-9258

PUBLISHER: American Society for Biochemistry and Molecular Biology

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The **human** M phase phosphoprotein 1 (MPP1), previously identified through a screening of a subset of proteins specifically phosphorylated at the G2/M transition (Matsumoto-Taniura, N., Pirollet, F., Monroe, R., Gerace, L., and Westendorf, J. M. (1996) Mol. Biol. Cell 7, 1455-1469), is characterized as a plus-end-directed **kinesin**-related protein. **Recombinant** MPP1 exhibits in vitro microtubule-binding and microtubule-bundling properties as well as microtubule-stimulated **ATPase** activity. In gliding expts. using polarity-marked microtubules, MPP1 is a slow mol. motor that moves toward the microtubule plus-end at a 0.07 μm/s speed. In cycling cells, MPP1 localizes mainly to the nuclei in interphase. During mitosis, MPP1 is diffuse throughout the cytoplasm in metaphase and subsequently localizes to the midzone to further concentrate on the midbody. MPP1 suppression by RNA interference induces failure of cell division late in cytokinesis. We conclude that MPP1 is a new mitotic mol. motor required for completion of cytokinesis.

REFERENCE COUNT: 79 THERE ARE 79 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 10 OF 53 MEDLINE on STN DUPLICATE 2

ACCESSION NUMBER: 2003114304 MEDLINE

DOCUMENT NUMBER: PubMed ID: 12496241

TITLE: Direct interaction with a **kinesin**-related motor mediates transport of mammalian discs large tumor suppressor homologue in epithelial cells.

AUTHOR: Asaba Noriyuki; Hanada Toshihiko; Takeuchi Atsuko; Chishti Athar H

CORPORATE SOURCE: Department of Medicine, St. Elizabeth's Medical Center, Tufts University School of Medicine, Boston, Massachusetts 02135, USA.

CONTRACT NUMBER: CA 94414 (NCI)
HL60755 (NHLBI)

SOURCE: Journal of biological chemistry, (2003 Mar 7) 278 (10) 8395-400.
Journal code: 2985121R. ISSN: 0021-9258.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals
ENTRY MONTH: 200304
ENTRY DATE: Entered STN: 20030312
Last Updated on STN: 20030424
Entered Medline: 20030423

AB Membrane-associated guanylate kinase homologues (MAGUKs) are generally found under the plasma membrane of cell-cell contact sites and function as scaffolding proteins by linking cytoskeletal and signaling molecules to transmembrane receptors. The correct targeting of MAGUKs is essential for their receptor-clustering function; however, the molecular mechanism of their intracellular transport is unknown. Here, we show that the guanylate kinase-like domain of **human** discs large protein binds directly within the amino acids 607-831 of the stalk domain of GAKIN, a **kinesin**-like protein of broad distribution. The primary structure of the binding segment, termed MAGUK binding stalk domain, is conserved in Drosophila **kinesin**-73 and some other motor and non-**motor proteins**. This stalk segment is not found in GKAP, a synaptic protein that interacts with the guanylate kinase-like domain, and unlike GKAP, the binding of GAKIN is not regulated by the intramolecular interactions within the discs large protein. The **recombinant** motor domain of GAKIN is an active microtubule-stimulated **ATPase** with k(cat) = 45 s(-1), K(0.5 (MT)) = 0.1 microm. Overexpression of green fluorescent protein-fused GAKIN in Madin-Darby canine kidney epithelial cells induced long projections with both GAKIN and endogenous discs large accumulating at the tip of these projections. Importantly, the accumulation of endogenous discs large was eliminated when a mutant GAKIN lacking its motor domain was overexpressed under similar conditions. Taken together, our results indicate that discs large is a cargo molecule of GAKIN and suggest a mechanism for intracellular trafficking of MAGUK-laden vesicles to specialized membrane sites in mammalian cells.

L14 ANSWER 11 OF 53 MEDLINE on STN
ACCESSION NUMBER: 2003114441 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12620232
TITLE: The **kinesin**-related protein MCAK is a microtubule depolymerase that forms an ATP-hydrolyzing complex at microtubule ends.
COMMENT: Comment in: Mol Cell. 2003 Feb;11(2):286-8. PubMed ID: 12620216
AUTHOR: Hunter Andrew W; Caplow Michael; Coy David L; Hancock William O; Diez Stefan; Wordeman Linda; Howard Jonathon
CORPORATE SOURCE: Department of Physiology and Biophysics, University of Washington, Seattle, WA 98195, USA.
CONTRACT NUMBER: AR40593 (NIAMS)
GM53654A (NIGMS)
GM59231 (NIGMS)
T326M07270
SOURCE: Molecular cell, (2003 Feb) 11 (2) 445-57.
Journal code: 9802571. ISSN: 1097-2765.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200304
ENTRY DATE: Entered STN: 20030312
Last Updated on STN: 20030403
Entered Medline: 20030402

AB MCAK belongs to the Kin I subfamily of **kinesin**-related proteins, a unique group of **motor proteins** that are not motile but instead destabilize microtubules. We show that MCAK is an **ATPase** that catalytically depolymerizes microtubules by accelerating, 100-fold, the rate of dissociation of tubulin from microtubule ends. MCAK has one high-affinity binding site per protofilament end, which, when occupied, has both the depolymerase and

ATPase activities. MCAK targets protofilament ends very rapidly (on-rate 54 micro M(-1).s(-1)), perhaps by diffusion along the microtubule lattice, and, once there, removes approximately 20 tubulin dimers at a rate of 1 s(-1). We propose that up to 14 MCAK dimers assemble at the end of a microtubule to form an ATP-hydrolyzing complex that processively depolymerizes the microtubule.

L14 ANSWER 12 OF 53 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
DUPLICATE 3
ACCESSION NUMBER: 2002-19545 BIOTECHDS
TITLE: New nucleic acid molecule encoding **human kinesin motor protein** useful for the diagnosis, prevention and treatment of cancer, neurological disorders and disorders of vesicular transport; vector-mediated **recombinant** protein gene transfer and **expression** in host cell for disease gene therapy
AUTHOR: BERAUD C; FREEDMAN R
PATENT ASSIGNEE: CYTOKINETICS INC
PATENT INFO: US 6395540 28 May 2002
APPLICATION INFO: US 2000-721137 22 Nov 2000
PRIORITY INFO: US 2000-721137 22 Nov 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-556097 [59]
AB DERWENT ABSTRACT:

NOVELTY - An isolated nucleic acid sequence (I) encoding a **human kinesin motor protein** (HsKifC2) having microtubule stimulated **ATPase** activity and comprising an amino acid sequence that has greater than 90 % sequence identity to a sequence (S1) of 787 or 326 amino acids, given in the specification as measured using a sequence comparison algorithm, is new.

DETAILED DESCRIPTION - A new isolated nucleic acid sequence (I) encodes a **human kinesin motor protein** (HsKifC2) having microtubule stimulated **ATPase** activity and comprising an amino acid sequence that has greater than 90 % sequence identity to a sequence (S1) of 787 or 326 amino acids, given in the specification as measured using a sequence comparison algorithm. (I) encodes a HsKifC2 protein that has microtubule stimulated **ATPase** activity, and comprises a sequence which has greater than 90 % sequence identity with the polynucleotide sequence (S2) of 2363 or 978 base pairs, given in the specification, as measured using a sequence comparison algorithm. INDEPENDENT CLAIMS are also included for the following: (1) an **expression** vector (II) comprising (I); and (2) a host cell transfected with (1).

WIDER DISCLOSURE - Also disclosed are: (1) a HsKifC2 protein; (2) identifying a candidate agent as a modulator of activity of a target protein, by using the HsKifC2 protein; (3) modulators identified by (2) for use in treating cellular proliferation diseases; (4) fragments of (I); and (5) kits for screening a modulator of HskifC2 protein.

BIOTECHNOLOGY - Preferred Nucleic Acid: (I) encodes a protein which specifically binds to polyclonal antibodies against the polypeptide having the sequence (S1). (I) encodes a protein comprising a sequence of amino acids that has greater than 95 % or 98 % sequence identity to (S1) or comprises a sequence greater than 95 % or 98 % to (S2), as measured using a sequence comparison algorithm. Preparation: (I) is prepared by standard **recombinant** techniques.

ACTIVITY - Cytostatic; Neuroprotective; Nootropic; Neuroleptic. No biological data is given.

MECHANISM OF ACTION - Gene therapy; HskifC2 protein modulator.

USE - (I) and the encoded protein are useful for the diagnosis, treatment and prevention of cancer, neurological disorders and disorders of vesicular transport. Portions of HskifC2 nucleotide sequence are useful to identify polymorphic variants, orthologs, alleles and homologs

of HskifC2.

ADMINISTRATION - Administered by oral, or parenteral route. No specific dosage is given.

EXAMPLE - No relevant example is given. (24 pages)

L14 ANSWER 13 OF 53 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
DUPLICATE 4

ACCESSION NUMBER: 2002-19544 BIOTECHDS

TITLE: New isolated nucleic acid sequence encoding **human kinesin motor protein**, HsKif7, useful for diagnosis, treatment or prevention of cancer, neurological disorders, and disorders of vesicular transport; vector-mediated **recombinant** protein gene transfer and **expression** in host cell for use in gene therapy

AUTHOR: BERAUD C; FREEDMAN R

PATENT ASSIGNEE: CYTOKINETICS INC

PATENT INFO: US 6395527 28 May 2002

APPLICATION INFO: US 2000-641806 17 Aug 2000

PRIORITY INFO: US 2000-641806 17 Aug 2000

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: WPI: 2002-556095 [59]

AB DERWENT ABSTRACT:

NOVELTY - An isolated nucleic acid sequence (I) encoding a **human kinesin motor protein**, HsKif7, which has stimulated **ATPase** activity, and has a sequence having greater than 90 % sequence identity to a sequence (S) comprising 342 or 337 amino acids, given in the specification, as measured using Basic Local Alignment Search Tool (BLAST) sequence comparison algorithm, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following: (1) an **expression** vector (II) comprising (I); and (2) a host cell transfected with (II).

WIDER DISCLOSURE - Also disclosed are: (1) an isolated **human kinesin motor protein**, HsKif7, encoded by (I); (2) an antibody to HsKif7 protein; (3) a modulator of HsKif7 protein; and (4) a kit for screening for HsKif7 modulators.

BIOTECHNOLOGY - Preferred Sequence: (I) encodes (II) which specifically binds to polyclonal antibodies to a protein comprising (S). The protein encoded by (I) has a sequence having greater than 95 %, preferably 98 % identity to (S) as measured using BLAST sequence comparison algorithm. (I) selectively hybridizes under stringent hybridization conditions to a sequence comprising 1026 or 1011 base pairs, given in the specification or its complement, where the stringent hybridization conditions are selected from: (i) 0.015 M sodium chloride/0.0015 M sodium citrate/0.1 % sodium dodecyl sulfate at 50 degrees Centigrade; (ii) 50 % formamide with 0.1 % bovine serum albumin/0.1 % Ficoll/0.1 % polyvinylpyrrolidone/50 mM sodium phosphate buffer at pH 6.5 with 750 mM sodium chloride and 75 mM sodium citrate at 42 degrees Centigrade; and (iii) 50 % formamide, 5 x saline sodium citrate (SSC; 0.75 M sodium chloride, 0.75 M sodium citrate), 50 mM sodium phosphate (pH 6.8), 0.1 % sodium pyrophosphate, 5 x Denhardt's solution, 50 micrograms/ml sonicated salmon sperm DNA, 0.1 % sodium dodecyl sulfate and 10 % dextran sulfate at 42 degrees Centigrade, with washes at 42 degrees Centigrade, in 0.2 x SSC and 50 % formamide at 55 degrees Centigrade, followed by a wash of 0.1 x SSC containing ethylene diamine tetraacetate/tetraacetic acid (EDTA) at 55 degrees Centigrade. Preparation: (I) is prepared by standard **recombinant** techniques.

ACTIVITY - Cytostatic; Nootropic; Neuroprotective; Neuroleptic.

MECHANISM OF ACTION - Gene therapy. No biological data is given.

USE - (I) is useful for diagnosis, treatment or prevention of cancer, neurological disorders, and disorders of vesicular transport. (I) is useful in diagnostic assays to determine the absence, presence and

excess **expression** of HsKif7, and to monitor regulation of HsKif7 levels during therapeutic intervention, and in assays that detect the presence of associated disorders.

EXAMPLE - No relevant example is given. (18 pages)

L14 ANSWER 14 OF 53 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
DUPLICATE 5
ACCESSION NUMBER: 2002-16430 BIOTECHDS
TITLE: New nucleic acid encoding **human kinesin motor protein**, HsKif16b, which has microtubule-stimulated **ATPase** activity, for diagnosing, preventing and treating cancer, neurological disorders and disorders of vesicular transport; gene transfer for use in diagnosis and gene therapy
AUTHOR: BERAUD C; FREEDMAN R
PATENT ASSIGNEE: CYTOKINETICS INC
PATENT INFO: US 6355471 12 Mar 2002
APPLICATION INFO: US 2000-722139 24 Nov 2000
PRIORITY INFO: US 2000-722139 24 Nov 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-370576 [40]
AB DERWENT ABSTRACT:

NOVELTY - An isolated nucleic acid encoding a new **human kinesin motor protein**, designated HsKif16b, which has microtubule stimulated **ATPase** activity, is new.

DETAILED DESCRIPTION - A new isolated nucleic acid encoding a **motor protein** has microtubule stimulated **ATPase** activity and comprises a sequence with greater than 95 % identity to sequences (I and II) of 1375 or 359 base pairs, given in the specification, as measured using a sequence algorithm. INDEPENDENT CLAIMS are also included for the following: (1) an isolated nucleic acid encoding a protein having sequence I or II or comprising a sequence with 95 % identity to I or II; (2) an isolated nucleic acid having a 4176 or 1077 nucleotide sequence, given in the specification; (3) an **expression** vector comprising the new nucleic acid: and (4) a host cell transfected with the vector.

WIDER DISCLOSURE - HsKif16b antibodies, screening methods and kits are disclosed.

BIOTECHNOLOGY - Preferred Protein: The encoded protein specifically binds to polyclonal antibodies to a protein comprising I or II. The **motor protein** comprises a sequence that has greater than 98 % identity to I or II. Preparation: The nucleic acid is prepared by standard molecular biology and biochemical techniques.

ACTIVITY - Cytostatic; neuroprotective; cardiant; anti-inflammatory; immunomodulatory; vasotropic. No biological data is given.

MECHANISM OF ACTION - Gene therapy.

USE - The nucleic acid is useful for the diagnosis, prevention or treatment of cancer, neurological disorders, immune disorders, inflammation, hyperplasias, cardiac hypertrophy, restenosis and disorders of vesicular transport.

ADMINISTRATION - Administration is by oral, subcutaneous, intravenous, intranasal, transdermal, intraperitoneal, intramuscular, intrapulmonary, vaginal, rectal, or intraocular routes. No specific dosages are given.

EXAMPLE - None given. (14 pages)

L14 ANSWER 15 OF 53 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
DUPLICATE 6
ACCESSION NUMBER: 2002-11714 BIOTECHDS
TITLE: New nucleic acid sequence encoding microtubule **motor protein**, useful for diagnosing, treating and preventing cancer, neurological disorders, disorders of vesicular transport, wounds and inflammation;

vector-mediated **recombinant** protein gene transfer and **expression** in host cell for use in cancer, neurological disease, vesicular transport disorder, inflammation, vulnerary, hyperplasias, restenosis, cardiovascular disorderand immune disorder diagnosis, prevention, therapy and gene therapy

AUTHOR: BERAUD C; FREEDMAN R
PATENT ASSIGNEE: CYTOKINETICS INC
PATENT INFO: US 6346410 12 Feb 2002
APPLICATION INFO: US 2000-637481 11 Aug 2000
PRIORITY INFO: US 2000-637481 11 Aug 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-224994 [28]

AB DERWENT ABSTRACT:

NOVELTY - An isolated nucleic acid sequence (I) encoding a microtubule **motor protein** (II) having microtubule stimulated adenosine triphosphatase (**ATPase**) activity and comprising a sequence having greater than 90% identity to a fully defined sequence (S1) comprising 205 amino acids as given in the specification as measured using a sequence comparison algorithm, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following: (1) an **expression** vector (III) comprising (I); and (2) a host cell transfected with (III).

WIDER DISCLOSURE - The following are also disclosed as new: (1) **human kinesin motor protein**, HsKif6 protein; (2) identifying a candidate agent as a modulator of the activity of target protein; (3) modulators of target protein including agents for the treatment of cellular proliferation including cancer, hyperplasias, restenosis, cardiac hypertrophy, immune disorders and inflammation; and (4) kits for screening the modulator of the target protein.

BIOTECHNOLOGY - Preparation: (I) is obtained by standard **recombinant** technology. Preferred Protein: (II) specifically binds to polyclonal antibodies to a protein comprising S1.

ACTIVITY - Cytostatic; neuroprotective; vulnerary; antiinflammatory.

MECHANISM OF ACTION - Gene therapy. No supporting data given.

USE - (I) is useful for diagnosing, treating and preventing cancer, neurological disorders, disorders of vesicular transport, wounds and inflammation. (I) (preferably portions of (I)) is useful for identifying polymorphic variants, orthologs, alleles and homologs of HsKif6 gene.

ADMINISTRATION - (I) is administered through oral, subcutaneous, intravenous, intranasal, transdermal, intraperitoneal, intramuscular, intrapulmonary, vaginal, rectal or intraoccular route. Dosage not specified.

EXAMPLE - None given in the source material. (20 pages)

L14 ANSWER 16 OF 53 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
DUPLICATE 7

ACCESSION NUMBER: 2002-10488 BIOTECHDS
TITLE: Novel isolated protein comprising motor domain fragment of **human kinesin motor protein** (HsKifC2), and having microtubule stimulated **ATPase** activity, useful for identifying modulators of HsKifC2 protein;
recombinant protein production, vector, antibody for drug screening and disease therapy
AUTHOR: BERAUD C; FREEDMAN R
PATENT ASSIGNEE: CYTOKINETICS INC
PATENT INFO: US 6335189 1 Jan 2002
APPLICATION INFO: US 2000-721383 22 Nov 2000
PRIORITY INFO: US 2000-721383 22 Nov 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-163206 [21]

AB DERWENT ABSTRACT:
NOVELTY - An isolated protein (I) which has greater than 90 % identity to a 326 residue HsKifC2 (a novel **human kinesin motor protein**) **motor** domain fragment amino acid sequence (S4), fully defined in the specification, is new. (I) comprises a motor domain and has microtubule stimulated **ATPase** activity.

WIDER DISCLOSURE - Disclosed as new are the following: (1) nucleic acid encoding HsKifC2 protein which has a sequence that has greater than 70 % identity to (S4); (2) an **expression** vector comprising the nucleic acid of (1); (3) modulators of HsKifC2 protein useful for treating cellular proliferation including cancer, hyperplasias, restenosis, cardiac hypertropy, immune disorders and inflammation; (4) antibodies to HsKifC2 protein; and (5) kits for screening the modulators of HsKifC2 protein.

BIOTECHNOLOGY - Preparation: (I) is prepared by standard **recombinant** techniques. Preferred Protein: (I) specifically binds to polyclonal antibodies generated against a 787 residue amino acid sequence (S2), fully defined in the specification, or binds to polyclonal antibodies generated against a motor domain of HsKifC2 having a sequence of (S4). (I) preferably comprises an (S2) or (S4), or has greater 95 preferably, 98 % identity to (S2) or (S4) as measured using a sequence comparison algorithm. (I) is tagged at it C-terminus with a C-myc peptide and a polyhistidine tag. The protein is also tagged at its N-terminus with T7 epitope.

USE - (I) is useful for identifying modulators of HsKifC2 protein.

EXAMPLE - No relevant example is given. (27 pages)

L14 ANSWER 17 OF 53 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2003-06666 BIOTECHDS
TITLE: Screening for modulators of **human kinesin** protein HsKrp5, which are useful in treating cancers or restenosis, comprises detecting binding or **ATPase** activity levels of the protein in a first and second concentration of a candidate agent; **recombinant** protein production and **expression** vector for use in disease therapy and drug screening
AUTHOR: BERAUD C; FREEDMAN R
PATENT ASSIGNEE: CYTOKINETICS INC
PATENT INFO: US 6448026 10 Sep 2002
APPLICATION INFO: US 2000-723096 27 Nov 2000
PRIORITY INFO: US 2000-723096 27 Nov 2000; US 2000-641807 17 Aug 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2003-089119 [08]
AB DERWENT ABSTRACT:
NOVELTY - Screening for modulators of a target protein, comprises detecting the level of binding activity or **ATPase** activity of the target protein when contacted with a first and second concentration of a candidate agent. The target protein comprises a sequence that has greater than 90% amino acid identity with a sequence having 1279 (I) or 341 (II) amino acids fully defined in the specification.

DETAILED DESCRIPTION - Screening for modulators of a target protein, which has microtubule stimulated **ATPase** activity, comprises: (a) contacting the target protein with a candidate agent at a first concentration and determining the level of activity of the target protein; and (b) contacting the target protein with a candidate agent at a second concentration and determining the level of activity of the target protein. The target protein comprises a sequence that has greater than 90% amino acid identity with a sequence having 1279 (I) or 341 (II) amino acids fully defined in the specification. A difference between the level of activity of the target protein contacted with the first concentration of the candidate agent and the level of activity of the

target protein contacted with the second concentration of the candidate agent indicates that the candidate agent modulates the activity of the target protein.

WIDER DISCLOSURE - Also disclosed as new are the following: (1) An isolated nucleic acid encoding a **kinesin** superfamily **motor protein**; (2) A **expression** vector comprising the nucleic acid; (3) An isolated **kinesin** superfamily **motor protein**, which binds against to antibodies generated against a motor domain, tail domain or other fragment of HsKrp5; and (4) Kits for screening for modulators of the target protein.

BIOTECHNOLOGY - Preferred Method: The screening preferably occurs in a multi-well plate as part of a high-throughput screen. The target protein has greater than 95%, preferably greater than 98%, amino acid sequence identity to (I) or (II). Preferably, the target protein comprises (I) or (II). The target protein has been isolated from an endogenous source, or produced recombinantly. The first concentration or the second concentration of the candidate agent is zero or at a level below detection. The candidate agent binds to the target protein, and may be an agonist or antagonist. Preferably, the candidate agent is labeled. The target protein is contacted with the candidate agent either in vivo or in vitro. Contacting the target protein with a candidate agent comprises adding the candidate agent to a mixture comprising the target protein to allow the production of ADP or phosphate. In particular, determining the level of activity of the target protein comprises: (a) subjecting the mixture to an enzymatic reaction, where the enzymatic reaction used ADP or phosphate as a substrate to allow the ADP or phosphate to be utilized; and (b) measuring NADH consumption as a measure of ADP production, where a change in the measure of NADH consumption between the first and second concentrations of the candidate agent indicates that the candidate agent is a modulator of the target protein. Determining the level of activity of the target protein comprises screening for alteration in cell cycle distribution or cell viability. Determining the level of activity of the target protein also comprises screening for the presence, morphology, activity, distribution, or amount of mitotic spindles. Preparation (claimed): (I) and (II) are produced recombinantly.

ACTIVITY - Cytostatic; Vasotropic; Cardiant; Immunomodulator; Antiinflammatory; Neuroprotective. No biological data given.

MECHANISM OF ACTION - **Kinesin Motor Protein** (HsKrp5) Modulator. No biological data given.

USE - The method is useful for screening for modulators of a target protein having microtubule stimulated **ATPase** activity (claimed), particularly the **human kinesin** protein HsKrp5. The modulators of HsKrp5 are useful in diagnosing, preventing or treating cellular proliferation (e.g. cancers or hyperplasia), restenosis, cardiac hypertrophy, immune disorders, inflammation, neurological disorders, or disorders of vesicular transport.

ADMINISTRATION - Administration is oral, subcutaneous, intravenous, intranasal, transdermal, intraperitoneal, intramuscular, intrapulmonary, vaginal, rectal or intraocular. No dosage given.

EXAMPLE - None given. (30 pages)

L14 ANSWER 18 OF 53 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2003-04574 BIOTECHDS
TITLE: Novel isolated nucleic acid sequence encoding a **motor protein**, useful for diagnosing, preventing and treating cancer, psoriasis, keloids, neurological disorders and disorders of vesicular transport; **human kinesin motor protein** and drug screening useful for disease therapy and diagnosis
AUTHOR: BERAUD C; FREEDMAN R
PATENT ASSIGNEE: CYTOKINETICS INC

PATENT INFO: US 6440731 27 Aug 2002
APPLICATION INFO: US 2000-641807 17 Aug 2000
PRIORITY INFO: US 2000-641807 17 Aug 2000; US 2000-641807 17 Aug 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-739590 [80]

AB DERWENT ABSTRACT:

NOVELTY - An isolated nucleic acid (I) comprising a sequence which has greater than 90% sequence identity with a sequence (S1) of 3837 or 1023 base pairs, where the nucleic acid encodes a **human kinesin motor protein** (HsKrp5) that has microtubule stimulated **ATPase** activity and the protein comprises a sequence that has greater than 90% sequence identity to a sequence (S2) of 1279 or 341 amino acids, is new.

DETAILED DESCRIPTION - An isolated nucleic acid (I) comprising a sequence which has greater than 90% sequence identity with a sequence (S1) of 3837 or 1023 base pairs, where the nucleic acid encodes a **human kinesin motor protein** (HsKrp5) that has microtubule stimulated **ATPase** activity and the protein comprises a sequence that has greater than 90% sequence identity to a sequence (S2) of 1279 or 341 amino acids, is new. (I) comprises a sequence which has greater than 90% sequence identity with S1 as measured using a sequence comparison algorithm, where the nucleic acid encodes a protein that has microtubule stimulated **ATPase** activity and the protein comprises an amino acid sequence that has greater than 90% sequence identity to S2 comprising a sequence of HsKrp5 having 1279 amino acids or a sequence of HsKrp5 motor domain having 341 amino acids, as measured using a sequence comparison algorithm. S1 and S2 are given in the specification. INDEPENDENT CLAIMS are also included for the following: (1) an **expression** vector (II) comprising (I); and (2) a host cell (III) transfected with (II).

WIDER DISCLOSURE - Disclosed are: (1) a HsKrp5 **motor protein** comprising S2; (2) a protein comprising an amino acid sequence which has greater than 70% sequence identity with S2; (3) fragments of (I); (4) variants of wild-type target proteins; (5) identifying a candidate agent as a modulator of the activity of a target protein; (6) a modulator of the target protein; (7) a composition comprising the **motor protein** and the polynucleotide encoding it; (8) treating cellular proliferation disorders, hyperplasias, restenosis, cardiac hypertrophy, immune disorders and inflammation, disorders associated with HsKrp5 activity and inhibiting HsKrp5 by using the above modulators; and (9) a kit for screening for modulators of the target protein.

BIOTECHNOLOGY - Preferred Nucleic Acid: In (I), the protein specifically binds to polyclonal antibodies to a protein comprising S2. The nucleic acid encodes a protein comprising a sequence of amino acids that has greater than 95% or 98% sequence identity to S1 or S2, as measured using a sequence comparison algorithm.

ACTIVITY - Cytostatic; Antipsoriatic; Vulnerary; Vasotropic; Antiinflammatory.

MECHANISM OF ACTION - Inhibitor of HsKrp5 activity. No biological data given.

USE - (I) is useful for diagnostic purposes to determine the presence or absence, and excess **expression** of HsKrp5 and to monitor the regulation of HsKrP5 levels during therapeutic intervention. (I) is also useful to detect and quantitate gene **expression** in biopsied tissues in which HsKrp5 may be correlated with the disease. (I) is also useful in assays to detect the presence of associated disorders. (I) and its encoded protein are useful in diagnosing, preventing and treating cancer, psoriasis, keloids, neurological disorders and disorders of vesicular transport.

ADMINISTRATION - The candidate agents are administered by oral, intravenous, intranasal, transdermal, intraperitoneal, intramuscular, intrapulmonary, vaginal, rectal, subcutaneous or intraocular route. No

dosage details given.
EXAMPLE - No suitable example given. (30 pages)

L14 ANSWER 19 OF 53 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2003-04550 BIOTECHDS
TITLE: Screening modulators of **human kinesin motor protein**, HsKif16b, for treating cancer, and autoimmune disease, by contacting HsKif16b with candidate agent in test/control concentration and assaying level of HsKif16b activity;
vector-mediated gene transfer and **expression** in host cell useful for drug screening
AUTHOR: BERAUD C; FREEDMAN R
PATENT ASSIGNEE: CYTOKINETICS INC
PATENT INFO: US 6440685 27 Aug 2002
APPLICATION INFO: US 2000-721689 24 Nov 2000
PRIORITY INFO: US 2000-721689 24 Nov 2000; US 2000-721689 24 Nov 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-711530 [77]
AB DERWENT ABSTRACT:
NOVELTY - Screening modulators of **human kinesin motor protein**, HsKif16b (I), with a sequence 95% identitical to a sequence (S1) of 1375 or 359 amino acids fully defined in the specification and microtubule stimulated **ATPase** activity, by contacting (I) with candidate agent at two different concentrations, and determining difference in the level of binding activity or **ATPase** activity of (I), is new.

DETAILED DESCRIPTION - Screening modulators of **human kinesin motor protein**, HsKif16b (I), with a sequence 95% identitical to a sequence (S1) of 1375 or 359 amino acids fully defined in the specification (as measured using a sequence comparison algorithm) and microtubule stimulated **ATPase** activity, by contacting (I) with candidate agent at two different concentrations. At a first concentration, and determining the level of activity of the target protein, and contacting the target protein with a candidate agent at a second concentration and determining the level of activity of the target protein, where the activity is selected from binding activity or **ATPase** activity and where the difference between the level of activity of the target protein contacted with the first concentration of the candidate agent and the level of activity of the target protein contacted with the second concentration of the candidate agent indicates that the candidate agent modulates the activity of the target protein.

WIDER DISCLOSURE - Also disclosed are: (1) an isolated nucleic acid and amino acid sequence of (I), and their use; (2) antibodies to HsKif16b, and its uses; (3) an **expression** vector comprising nucleic acid encoding a **kinesin** superfamily **motor protein**; (4) a host cell transformed with the above vector; and (5) kits for screening HsKif16b modulators.

BIOTECHNOLOGY - Preferred Method: Screening occurs in a multi-well plate as part of a high-throughput screen. (I) has greater than 98% amino acid sequence identity to (S1) as measured using a sequence comparison algorithm. The first concentration or the second concentration of the candidate agent is zero or a level below detection. The candidate agent is an agonist or antagonist. The candidate agent binds to the target protein. The target protein is contacted with the candidate agent in vivo or in vitro. The target protein is contacted with the candidate agents by adding the candidate agent to a mixture comprising the target protein under condition which normally allow the production of ADP or phosphate. Determining the level of activity of the target protein involves subjecting a mixture to enzymatic reaction, where the enzymatic reaction uses ADP or phosphate as a substrate under conditions which normally allow the ADP or phosphate to be utilized and measuring NADH consumption

as a measure of ADP production, where a change in measure of NADH consumption between the first and second concentration of the candidate agent indicates that the candidate agent is a modulator of the target protein. The candidate agent is preferably labeled.

ACTIVITY - Cytostatic; Vasotropic; Immunosuppressive; Antiinflammatory; Antiarthritic. No supporting data is given.

MECHANISM OF ACTION - Modulator of HsKif16b (claimed).

USE - The method is useful for screening modulators of target protein (isolated from endogenous source or is recombinantly produced), HsKif16b (claimed), for treating cellular proliferation diseases such as cancer of cardiac (myxoma), lung (bronchogenic carcinoma), gastrointestinal (adenocarcinoma), genitourinary tract (transitional cell carcinoma), liver (hepatoma), bone (osteosarcoma), nervous system (glioma), gynecological (endometrial carcinoma), hematologic (myeloid leukemia), skin (basal cell carcinoma), or adrenal gland (neuroblastoma), hyperplasia, restenosis, cardiac hypertrophy, immune disorders, inflammation, autoimmune disease, arthritis, graft rejection, inflammatory bowel disease, proliferation induced after medical procedures e.g. surgery, for treating disorders associated with HsKif16b activity, and for inhibiting HsKif16b.

ADMINISTRATION - (I) is administered through oral, subcutaneous, intravenous, intranasal, transdermal, intraperitoneal, intramuscular, intrapulmonary, vaginal, rectal or intraocular route. Dosage details not given.

EXAMPLE - No relevant example is given. (30 pages)

L14 ANSWER 20 OF 53 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2003-04549 BIOTECHDS
TITLE: Screening for modulators of target protein having microtubule stimulated **ATPase** activity e.g. **kinesin** family of protein, useful for treating cancer, psoriasis, arthritis, **human** immunodeficiency virus (HIV) infection;
human Kif4 drug screening useful for disease therapy
AUTHOR: BERAUD C; FINER J T; SAKOWICZ R; WOOD K W
PATENT ASSIGNEE: CYTOKINETICS INC
PATENT INFO: US 6440684 27 Aug 2002
APPLICATION INFO: US 2000-592054 12 Jun 2000
PRIORITY INFO: US 2000-592054 12 Jun 2000; US 2000-592054 12 Jun 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-711529 [77]
AB DERWENT ABSTRACT:

NOVELTY - Screening (M1) modulators of target protein (I) with microtubule stimulated **ATPase** activity, by contacting (I) with an agent (II) at 1st and 2nd concentrations; and determining the level of activity (e.g., binding or **ATPase** activity) of (I), where a difference between levels of activity of (I) contacted with 1st and 2nd concentrations of (II), indicates that (II) modulates activity of (I), is new.

DETAILED DESCRIPTION - Screening (M1) for modulators of a target protein (I) having microtubule stimulated **ATPase** activity and comprising a fully defined microtubule **motor protein** e.g., **human** Kif4 (HsKif4, a **kinesin** family protein) sequence of 1232 amino acids, or a fully defined sequence of 522 or 473 amino acids as given in the specification, involves contacting (I) with candidate agent (II) at first and second concentrations; and determining level of activity (e.g., binding or **ATPase** activity) of (I), where a difference between levels of activity of (I) contacted with first and second concentrations of (II), indicates that (II) modulates activity of (I).

WIDER DISCLOSURE - The following are disclosed: (a) compounds identified by (M1) and compositions comprising the identified compounds;

and (b) kits for screening for modulators of target protein.

BIOTECHNOLOGY - Preferred Method: In (M1), the level of activity of (I) is determined by a fluorescent, luminescent, radioactive, or absorbance readout. Preferably, the level of activity of (I) is determined at multiple time points. Determining the level of activity of (I) involves screening for the presence, morphology, activity, distribution, or amount of mitotic spindles. Contacting (I) with (II) preferably involves adding (II) to a mixture comprising (I) under conditions which normally allow the production of ADP or phosphate, and determining the level of activity of (I) by the following steps: subjecting the mixture to enzymatic reaction that uses ADP or phosphate as a substrate under conditions which normally allow the ADP or phosphate to be utilized; and measuring NADH consumption as a measure of ADP production, where a change in measure of NADH consumption between the first and second concentrations of (II) indicates that (II) is a modulator of (I). Preferably (II) (an agonist or antagonist or an agent that binds to (I)), is enabled. The first or second concentration of (II) is 0 or at level below detection. (I) is contacted with (II) in vivo or in vitro. (M1) further involves culturing one or more cell that **express** (I), adding (II) to the cell, and determining the effect of (II) on the cells. The culturing step is conducted in a stationary multiwell plate e.g., a 96- or 384-well microtiter plate.

ACTIVITY - Cytostatic; Vasotropic; Antiinflammatory; Antiarthritic; Immunosuppressive; Antipsoriatic; Virucide; Anti-HIV. No biological data is given

MECHANISM OF ACTION - HsKif4 modulator; Microtubule **motor protein** modulators.

USE - For screening for modulators of (I) having microtubule stimulated **ATPase** activity, where (I) has been isolated from an endogenous or has been produced (claimed). The compounds identified by (M1) are useful for treating cellular proliferation including cancer, hyperplasias, restenosis, cardiac hypertrophy, immune disorders and inflammation. The compounds identified by (M1) are also useful treating autoimmune disease, arthritis, graft rejection, inflammatory bowel disease, proliferation induced of the medical procedures, e.g., surgery, angioplasty etc. The compounds are also useful for treating psoriasis. The compounds are useful for inhibiting **human** immunodeficiency virus (HIV) and thus treating acquired immunodeficiency syndrome (AIDS).

ADMINISTRATION - The microtubule **motor protein** modulators are administered by oral, subcutaneous, intranasal, intravenous, transdermal, intraperitoneal or intramuscular route. No specific clinical dosages are given.

EXAMPLE - An assay based on detection of ADP production from a target protein's microtubule stimulated **ATPase** was designed. ATP production was monitored by a coupled enzyme system consisting of pyruvate kinase and lactate dehydrogenase. Under the assay conditions described below, pyruvate kinase catalyzes the conversion of ADP and phosphoenol pyruvate to pyruvate and ATP. Lactate dehydrogenase then catalyzes the oxidation-reduction reaction of pyruvate and NADH to lactate and NAD+. Thus, for each molecule of ADP produced, one molecule of NADH was consumed. The amount of NADH in the assay solution was monitored by measuring light absorption at a wavelength of 340 nm. The final 25 microl assay solution consisted 5 microg/ml target protein, 30 microg/ml microtubules, 5 microM Taxol, 0.8 mM NADH, 1.5 mM phosphoenol pyruvate, 3.5 U/ml pyruvate kinase, 5 U/ml lactate dehydrogenase, 25 mM pipes/KOH pH 6.8, 2 mM MgCl2, 1 mM EGTA, 1 mM MDTT, 0.1 mg/ml bovine serum albumin (BSA), 0.001% antifoam 289, and 1 mM ATP. Potential candidate agents were dissolved in dimethylsulfoxide at a concentration of about 1 mg/ml and 0.5 microl of each chemical solution was dispensed into a single well of a 384 well plate. Each of the 384 well were then filled with 20 microl of a solution consisting of all of the assay components described above except for ATP. The plate was agitated at a high frequency. To start the assay, 5 microl of a solution containing ATP was added to each well. The plate was agitated and the absorbance was

read at 340 nm over various time intervals. The assay was run at room temperature. The assay components and the performance of the assay were optimized together to match the overall read time with the rate of the target protein's ADP production. (34 pages)

L14 ANSWER 21 OF 53 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2003-03711 BIOTECHDS
TITLE: Screening modulators of **human kinesin motor protein**, HsKif12a, by providing biologically active HsKif12a, contacting HsKif12a with candidate agent in test/control concentration and assaying level of HsKif12a activity;
vector-mediated gene transfer and **expression** in host cell for **recombinant** protein production and drug screening
AUTHOR: BERAUD C; FREEDMAN R
PATENT ASSIGNEE: CYTOKINETICS INC
PATENT INFO: US 6432660 13 Aug 2002
APPLICATION INFO: US 2000-724518 27 Nov 2000
PRIORITY INFO: US 2000-724518 27 Nov 2000; US 2000-632155 3 Aug 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-689757 [74]
AB DERWENT ABSTRACT:
NOVELTY - Screening modulators (I) of **human kinesin motor protein**, HsKif12a, comprising providing biologically active HsKif12a (II) having **ATPase** activity, and greater than 90 % identity to a 274 residue HsKif12a amino acid sequence, given in the specification, contacting (II) with candidate agent in test and control concentration (TC,CC), and assaying change in level of HsKif12a activity between TC and CC indicates modulator, is new.
WIDER DISCLOSURE - (1) an isolated nucleic acid and amino acid sequence of **human kinesin motor protein**, HsKif12a and their use; (2) antibodies to HsKif12a, and its uses; (3) an **expression** vector comprising nucleic acid encoding a **kinesin** superfamily **motor protein** ; and (4) kits for screening HsKif12a modulators.
BIOTECHNOLOGY - Preferred Method: Screening occurs in a multi-well plate as part of a high-throughput screen and the biologically active HsKif12a comprises an amino acid sequence of a HsKif12a motor domain.
ACTIVITY - Cytostatic; Vasotropic; Immunosuppressive; Antiinflammatory; Antiarthritic. No biological data is given.
MECHANISM OF ACTION - Modulator of HsKif12a (claimed).
USE - The method is useful for screening modulators of HsKif12a (claimed), for treating cellular proliferation diseases such as cancer of cardiac (myxoma), lung (bronchogenic carcinoma), gastrointestinal (adenocarcinoma), genitourinary tract (transitional cell carcinoma), liver (hepatoma), bone (osteosarcoma), nervous system (glioma), gynecological (endometrial carcinoma), hematologic (myeloid leukemia), skin (basal cell carcinoma), or adrenal gland (neuroblastoma), hyperplasia, restenosis, cardiac hypertrophy, immune disorders, inflammation, autoimmune disease, arthritis, graft rejection, inflammatory bowel disease, proliferation induced after medical procedures e.g. surgery, for treating disorders associated with HsKif12a activity, and for inhibiting HsKif12a.
ADMINISTRATION - (I) is administered through oral, subcutaneous, intravenous, intranasal, transdermal, intraperitoneal, intramuscular, intrapulmonary, vaginal, rectal or intraocular route. No dosage is given.
EXAMPLE - No relevant example is given.(19 pages)

L14 ANSWER 22 OF 53 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2003-04560 BIOTECHDS
TITLE: New **human** microtubule motor nucleic acid useful for diagnosis and treatment of e.g. cancer, arthritis and

psoriasis;
vector-mediated gene transfer and **expression** in host cell for disease diagnosis and gene therapy
AUTHOR: BERAUD C; FREEDMAN R
PATENT ASSIGNEE: CYTOKINETICS INC
PATENT INFO: US 6429005 6 Aug 2002
APPLICATION INFO: US 2000-632155 3 Aug 2000
PRIORITY INFO: US 2000-632155 3 Aug 2000; US 2000-632155 3 Aug 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-722085 [78]
AB DERWENT ABSTRACT:
NOVELTY - An isolated nucleic acid (I) encoding a **human** microtubule **motor protein** with microtubule stimulated **ATPase** activity and a sequence at least 90% identical to a fully defined 274 amino acid sequence (S1) given in the specification, is new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for: (1) **expression** vector comprising (I); and (2) host cell transfected with the vector.
WIDER DISCLOSURE - Also disclosed as new are: (1) protein (II) encoded by (I); (2) antibodies to the protein; (3) kits for screening for modulators of the protein; (4) methods for screening for modulators of (II); and (5) modulators of (II).
BIOTECHNOLOGY - Preferred Nucleic Acid: (I) encodes S1, and the protein specifically binds polyclonal antibodies to a protein of S1. (I) can hybridize to a fully defined 823 base pair sequence given in the specification. Preparation: (I) is prepared using standard **recombinant** techniques.
ACTIVITY - Cytostatic; Neuroprotective; Nootropic; Immunomodulator; Antiinflammatory; Vasotropic; Antiarthritic; Immunosuppressive; Antipsoriatic; Vulnerary. No supporting data provided.
MECHANISM OF ACTION - Gene therapy; Antisense therapy. No supporting data provided.
USE - (I) is useful for diagnosis and treatment of cancer, arthritis, psoriasis, autoimmune disease, graft rejection, bowel disease, neurological disorders, wounds, immune disorders, inflammation and vesicular transport disorders (e.g. hyperplasia, restenosis, cardiac hypertrophy).
ADMINISTRATION - Administration is oral, subcutaneous intravenous, intranasal, transdermal, intraperitoneal, intramuscular, vaginal, rectal or intraocular. No dosage given.
EXAMPLE - None given. (19 pages)

L14 ANSWER 23 OF 53 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2003-22440 BIOTECHDS
TITLE: Screening for modulators of target **human** **kinesin motor protein**, HsKif6, by contacting the target protein with a candidate agent at a first and second concentration and determining activity level of the target protein;
recombinant protein production and antagonist and agonist for use in disease therapy and drug screening
AUTHOR: BERAUD C; FREEDMAN R
PATENT ASSIGNEE: CYTOKINETICS INC
PATENT INFO: US 6416966 9 Jul 2002
APPLICATION INFO: US 2000-723428 27 Nov 2000
PRIORITY INFO: US 2000-723428 27 Nov 2000; US 2000-637481 11 Aug 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2003-605311 [57]
AB DERWENT ABSTRACT:
NOVELTY - Screening (M) for modulators of target **human** **kinesin motor protein**, HsKif6 (TP) that has microtubule stimulated **ATPase** activity and has a sequence with

greater than 90% identity to a sequence (S) comprising 205 amino acids fully defined in the specification, involves contacting TP with a candidate agent at a first and second concentration and determining activity level of TP.

DETAILED DESCRIPTION - Screening (M) for modulators of target **human kinesin motor protein**, HsKif6 (TP), where TP has microtubule stimulated **ATPase** activity and comprises a sequence that has greater than 90% identity to a sequence (S) of 205 amino acids fully defined in the specification, as measured using a sequence comparison algorithm, by contacting TP with a candidate agent at a first concentration and determining a level of activity of TP, and contacting TP with a candidate agent at a second concentration and determining a level of activity of TP, where the activity is selected from binding activity or **ATPase** activity, and where a difference between the level of activity of TP contacted with the first concentration of the candidate agent and the level of activity of TP contacted with the second concentration of the candidate agent indicates that the candidate agent modulates the activity of TP.

WIDER DISCLOSURE - Disclosed are: (1) a HsKif6 polypeptide and its use; (2) a polynucleotide encoding the above mentioned polypeptide and its use; (3) an antibody to HsKif6 and its use; (4) a kit for screening HsKif6 modulator; (5) an **expression** vector comprising the above mentioned polynucleotide; (6) a host cell transfected with the above mentioned vector; and (7) a modulator of TP.

BIOTECHNOLOGY - Preferred Method: In (M), the screening occurs in a multi-well plate as part of a high-throughput screen. TP comprises a sequence of (S). TP has greater than 95%, preferably greater 98% sequence identity to (S) as measured using a sequence comparison algorithm. TP has been isolated from an endogenous source or produced recombinantly. The first concentration or the second concentration of the candidate agent is zero or a level below detection. The candidate agent is an agonist or antagonist. The candidate agent is labeled. The candidate agent binds to TP. TP is contacted with the candidate agent in vivo or in vitro. The step of contacting TP with a candidate agent comprises adding the candidate agent to a mixture comprising TP under conditions which normally allow the production of ADP or phosphate. The level of activity of TP is determined by subjecting the mixture to an enzymatic reaction, where the enzymatic reaction uses ADP or phosphate as a substrate under conditions which normally allow the ADP or phosphate to be utilized, and measuring NADH consumption as a measure of ADP production, where a change in measure of NADH consumption between the first and second concentrations of the candidate agent indicates that the candidate agent is a modulator of TP.

ACTIVITY - Cytostatic; Immunosuppressive; Antiarthritic; Vasotropic; Antiinflammatory.

MECHANISM OF ACTION - Modulator of HsKif6. No suitable data given.

USE - (M) is useful for screening for modulators of **human kinesin** protein HsKif6 (claimed). The modulator of HsKif6 identified by (M) is useful for treating cancer, autoimmune disease, arthritis, graft rejection, inflammatory bowel disease, hyperplasias, restenosis, cardiac hypertrophy, inflammation, and proliferation induced after medical procedures.

ADMINISTRATION - A pharmaceutical composition comprising HsKif6 modulator is administered by oral, subcutaneous, intravenous, intranasal, transdermal, intraperitoneal, intramuscular, intrapulmonary, vaginal, rectal or intraocular route. No dosage details given.

EXAMPLE - No suitable example is given. (20 pages)

L14 ANSWER 24 OF 53 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2002-18168 BIOTECHDS
TITLE: New nucleic acid encoding a **human kinesin motor protein** designated HsKif15 which has microtubule stimulated **ATPase** activity, for diagnosing and treating cancer, neurological disorders and

disorders of vesicular transport;
vector-mediated **kinesin motor protein** gene transfer and expession in host cell, useful for gene therapy and diagnosis

AUTHOR: BERAUD C; SAKOWICZ R; WOOD K W
PATENT ASSIGNEE: CYTOKINETICS INC
PATENT INFO: US 6391613 21 May 2002
APPLICATION INFO: US 1999-723219 4 Jun 1999
PRIORITY INFO: US 2000-723219 27 Nov 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-498776 [53]

AB DERWENT ABSTRACT:

NOVELTY - An isolated nucleic acid encoding a **human kinesin motor protein** which has microtubule stimulated **ATPase** activity designated HsKif15, is new.

DETAILED DESCRIPTION - A new isolated nucleic acid (N1) encoding a **motor protein** has microtubule stimulated **ATPase** activity and greater than 90 % sequence identity to one of the three sequences, given in the specification (sequences I,II and III) as measured using a sequence comparison algorithm. INDEPENDENT CLAIMS are also included for the following: (1) an isolated nucleic acid sequence having one of the three nucleotide sequences fully defined in the specification (sequences IV,V and VI); (2) an **expression** vector comprising N1; and (3) a host cell transfected with (2).

BIOTECHNOLOGY - Preparation: N1 is prepared by standard **recombinant** techniques.

ACTIVITY - Cytostatic; Neuroprotective. No biological data is given.

MECHANISM OF ACTION - **ATPase**.

USE - The nucleic acid is useful to diagnose, prevent and treat cancer, neurological disorders and disorders of vesicular transport

EXAMPLE - None given.(11 pages)

L14 ANSWER 25 OF 53 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2002-17809 BIOTECHDS
TITLE: Screening for modulators of **human kinesin motor protein** HsKip3b is useful to find molecules useful to treat cellular proliferation diseases such as cancer, cardiac hypertrophy, immune disorders and inflammation;
recombinant protein modulator and agonist and antagonist use in disease therapy

AUTHOR: BERAUD C; FREEDMAN R
PATENT ASSIGNEE: CYTOKINETICS INC
PATENT INFO: US 6391573 21 May 2002
APPLICATION INFO: US 2000-724516 21 Jul 2000
PRIORITY INFO: US 2000-724516 27 Nov 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-478535 [51]

AB DERWENT ABSTRACT:

NOVELTY - Screening for modulators of a target protein which has microtubule stimulated **ATPase** activity, comprising contacting the target protein with a candidate agent at a two different concentrations and determining target protein **ATPase** or binding activities, is new.

DETAILED DESCRIPTION - Screening for modulators of a target protein which has microtubule stimulated **ATPase** activity and comprises a sequence with greater than 90%, preferably greater than 98%, identity to the 299 amino acid sequence fully defined in the specification as measured using a sequence comparison algorithm, comprising contacting the target protein with a candidate agent at a two different concentrations and determining target protein **ATPase** or binding activities.

WIDER DISCLOSURE - **Human kinesin motor protein** HsKip3b is disclosed.

BIOTECHNOLOGY - Preferred Method: Preferably screening takes place in a multiwell plate as part of a high through-put screen. The target protein may have been isolated from an endogenous source or produced recombinantly. The candidate agent is tested at zero concentration or a level below detection. Contacting may be in vivo or in vitro. Contacting preferably comprises adding the candidate agent to a mixture comprising the target protein under conditions which allow production of ADP or phosphate. The level of activity is preferably measured by measuring NADH consumption as a measure of ADP production. The candidate agent may be labeled. The candidate agent is an agonist or antagonist and it binds to the target protein.

ACTIVITY - Cytostatic; cytostatic; cardiant; antiinflammatory; immunomodulatory. No biological data given.

MECHANISM OF ACTION - Agonist; antagonist. No biological data given.

USE - Compounds identified by the method of the invention are used to treat cellular proliferation diseases such as cancer, hyperplasias, restenosis, cardiac hypertrophy, immune disorders and inflammation. (10 pages)

L14 ANSWER 26 OF 53 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2002-18769 BIOTECHDS
TITLE: New **human Kinesin**-Related **Motor Protein** (HSKIP3B) useful for the prevention, diagnosis and treatment of e.g. cancers, arthritis and graft rejection;
vector-mediated **recombinant** protein gene transfer and **expression** in host cell for use in gene therapy, **recombinant** vaccine and nucleic acid vaccine preparation
AUTHOR: BERAUD C; FREEDMAN R
PATENT ASSIGNEE: CYTOKINETICS INC
PATENT INFO: US 6368841 9 Apr 2002
APPLICATION INFO: US 2000-724508 21 Jul 2000
PRIORITY INFO: US 2000-724508 27 Nov 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-517181 [55]
AB DERWENT ABSTRACT:

NOVELTY - An isolated **Human Kinesin**-Related Protein (HSKIP3B) (a **motor protein**) (I), comprising a sequence with more than 90 % amino acid sequence identity to a defined 300 amino acid sequence (A1), given in the specification (as measured using a sequence comparison algorithm) and which has microtubule stimulated **ATPase** activity, is new.

BIOTECHNOLOGY - Preferred Proteins: The protein specifically binds to polyclonal antibodies generated against (A1), and has more than 98 % amino acid sequence identity to (A1) (as measured using a sequence comparison algorithm). The protein is tagged with a c-myc group and a polyhistidine group, and/or a T7 group. Preparation: The HSKIP3B protein may be produced by standard **recombinant** DNA methodologies e.g. see Sambrook et al., Molecular **Cloning**, A Laboratory Manual (2nd ed. 1989); Kriegler, Gene Transfer and **Expression**: A Laboratory Manual (1990)

ACTIVITY - Cytostatic; Immunosuppressive; Antiarthritic; Antiinflammatory. No biological data is given.

MECHANISM OF ACTION - Gene therapy; Protein Therapy; Vaccine.

USE - (I) may be used in the prevention, diagnosis and treatment of diseases associated with inappropriate HSKIP3B **expression**. For example, it may be used to treat disorders associated with decreased HSKIP3B **expression** by rectifying mutations or deletions in a patient's genome that affect the activity of HSKIP3B by **expressing** inactive proteins or to supplement the patient's own

production of activity of HSKIP3B by **expressing** inactive proteins or to supplement the patients own production of HSKIP3B. (I) may also be used as antigens in the production of antibodies against phosphoenolpyruvate (PEP)1 and in assays to identify modulators of HSKIP3B **expression** and activity. The anti-HSKIP3B antibodies and antagonists may also be used to down regulate **expression** and activity. The anti-HSKIP3B antibodies and antagonists may also be used as diagnostic agents for detecting the presence of HSKIP3B in samples. Disorders that may be prevented, diagnosed and/or treated by the above methods include, for example cellular proliferation diseases. Disease states which can be treated include cancer, autoimmune disease, arthritis, graft rejection, inflammatory bowel disease, and proliferation induced after medical procedures, including e.g. surgery, angioplasty. The compositions are particularly useful for the treatment of cancers (a full list of which can be found in the specification).

ADMINISTRATION - Administered orally, subcutaneously, intravenously, intranasally, transdermally, intraperitoneally, intramuscularly, intrapulmonary, vaginally, rectally, or intraocularly. No specific dosage is given.

ADVANTAGE - The **kinesin** superfamily is an extended family of related microtubule **motor proteins**. Within this functional group of **kinesins** resides a group of **kinesins** from several organisms that share significant sequence homology. These include Drosophila KIp67A. Drosphohila KIp67A has been shown to be a plus end-directed motor. This activity implicates KPL67A in the localization of mitochondria in undifferentiated cell types. In situ hybridization studies of the KLP67A mRNA during embryogenesis and larval central nervous system development indicate a proliferation-specific **expression** pattern. When affinity-purified anti-LKP67A antisera are used to stain blastoderm embryos, mitochondria in the region of the spindle asters are labeled. These data suggest that LKP67A is a mitotic motor with the role of positioning mitochondria near the spindle. The discovery of new **kinesin motor protein**, and more particularly, one having sequence homology to KLP67A, and the polynucleotides encoding it satisfies a need in the art by providing new compositions which are useful in the diagnosis, prevention, and treatment of cancer, neurological disorders, and disorders of vesicular transport.

EXAMPLE - None given.(16 pages)

L14 ANSWER 27 OF 53 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2002-16490 BIOTECHDS
TITLE: Screening for modulators of **kinesin motor protein** HsKif9, useful for treating cellular proliferation, e.g. cancer or inflammation; vector-mediated **recombinant** protein gene transfer and **expression** in host cell for use in drug screening and hyperplasia, restenosis, cardiovascular disease, hypertrophy, autoimmune disease, arthritis and vulnerary diagnosis and therapy
AUTHOR: BERAUD C; FREEDMAN R
PATENT ASSIGNEE: CYTOKINETICS INC
PATENT INFO: US 6355447 12 Mar 2002
APPLICATION INFO: US 2000-723153 8 Aug 2000
PRIORITY INFO: US 2000-723153 27 Nov 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-380938 [41]
AB DERWENT ABSTRACT:

NOVELTY - Method of screening for modulators (A) of a target protein (I) that has microtubule-stimulated ATP(adenosine triphosphate)ase activity and over 95% identity (using the BLAST algorithm) with sequences (2; 790 amino acids) or (4; 338 amino acids), fully defined in the specification. (I) is contacted with two different concentrations of a test compound and the level of protein activity (binding or **ATPase** activity)

measured. A difference in activity between the two concentrations indicates a modulator.

WIDER DISCLOSURE - Also disclosed as new are: (i) nucleic acid (II) encoding the HsKif9 **human** kinase **motor protein**, i.e. (1; 2387 bp) or (3; 1014 bp), reproduced; sequences that encode polypeptides at least 70% identical with (2) and (4); sequences at least 55% identical with (1) and (3), also sequences that hybridize to (1) or (3), or their complements; (ii) proteins (Ia) at least 70% identical with (2) or (4) and their fragments; (iii) vectors containing (II); (iv) (A) identified by the new method; (v) isolation of (II) by standard methods of **cloning** and screening of cDNA/genomic DNA libraries or production by chemical synthesis; (vi) **recombinant** production of (I) by culturing host cells that contain the vector of (iii); (vii) antibodies against (I), their preparation and use for detecting (I), e.g. for diagnosis or monitoring; (viii) diagnostic use of probes and primers derived from (II); and (ix) kits for screening for (A).

ACTIVITY - Cytostatic; Cardiant; Immunosuppressive; Antiinflammatory; Vulnerary. No details of tests for these activities are given.

MECHANISM OF ACTION - Agonism or antagonism of the **human kinesin motor protein** HsKif9.

USE - (A) are useful for inhibiting cellular proliferation, e.g. cancer, hyperplasia, restenosis, cardiac hypertrophy, autoimmune diseases (e.g. arthritis and graft rejection) and inflammation, also to promote cell proliferation, e.g. for wound healing and in agriculture.

ADMINISTRATION - (A) are administered by injection, orally, topically. No doses are suggested.

EXAMPLE - A reaction mixture contained (per ml) 5 mg of the **human kinesin motor protein** HsKif9; 30 microg microtubules; 5microM taxol; 0.8 mM reduced nicotinamide-adenosine dinucleotide; 1.5 mM phosphoenolpyruvate; 3.5 units (U) pyruvate kinase; 5 U lactate dehydrogenase; 25 mM PIPES-potassium hydroxide (pH 6.8); 2 mM magnesium chloride; 1 mM ethylene glycol tetraacetic acid; 1 mM MDTT (not defined); 0.1 mg bovine serum albumin; 0.001% antifoam and 1 mM ATP (adenosine triphosphate). A test compound was added at 1 mg/ml and the absorbance measured at 340 nm. No actual results are given. (27 pages)

L14 ANSWER 28 OF 53 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:256423 HCAPLUS
DOCUMENT NUMBER: 136:274347
TITLE: **Human kinesin motor protein** KinI-3, protein and cDNA sequences and tissue **expression**
INVENTOR(S): Beraud, Christophe; Guo, Jun; Freedman, Richard; Patel, Umesh A.; Davies, Katherine A.
PATENT ASSIGNEE(S): Cytokinetics, Inc., USA
SOURCE: PCT Int. Appl., 68 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002026929	A2	20020404	WO 2001-US30750	20010928
WO 2002026929	A3	20020613		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG,

US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 6461855	B1	20021008	US 2000-675227	20000929
US 6432659	B1	20020813	US 2000-724510	20001127
US 6436686	B1	20020820	US 2000-723216	20001127
CA 2423955	AA	20020404	CA 2001-2423955	20010928
EP 1330535	A2	20030730	EP 2001-977340	20010928
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004509639	T2	20040402	JP 2002-530695	20010928
PRIORITY APPLN. INFO.:			US 2000-675227 A	20000929
			WO 2001-US30750 W	20010928

AB The invention provides isolated nucleic acid and amino acid sequences for **human kinesin** KinI-3. The invention also relates to antibodies to KinI-3. The invention also relates to methods of screening for KinI-3 modulators using biol. active KinI-3, and kits for screening for KinI-3 modulators. The invention shows that **kinesin** KinI-3 is unregulated in lung, colon and breast cancers.

L14 ANSWER 29 OF 53 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:123032 HCAPLUS
DOCUMENT NUMBER: 136:178998
TITLE: Novel **human kinesin motor protein** HsKip3d and cDNA and therapeutic use
INVENTOR(S): Beraud, Christophe; Freedman, Richard
PATENT ASSIGNEE(S): Cytokinetics, Inc., USA
SOURCE: PCT Int. Appl., 66 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002012268	A1	20020214	WO 2001-US24285	20010803
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 6534309	B1	20030318	US 2000-632344	20000803
US 6391601	B1	20020521	US 2000-724511	20001127
US 6492151	B1	20021210	US 2000-723097	20001127
CA 2417589	AA	20020214	CA 2001-2417589	20010803
AU 2001081002	A5	20020218	AU 2001-81002	20010803
EP 1305331	A1	20030502	EP 2001-959446	20010803
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004512028	T2	20040422	JP 2002-518241	20010803
US 2004023255	A1	20040205	US 2003-343729	20030804
PRIORITY APPLN. INFO.:			US 2000-632344 A	20000803
			WO 2001-US24285 W	20010803

AB The invention provides isolated nucleic acid and amino acid sequences of HsKip3d, antibodies to HsKip3d, methods of screening for HsKip3d modulators using biol. active HsKip3d, and kits for screening for HsKip3d modulators. The mRNA **expression** profile in various tissues are also provided.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 30 OF 53 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:616281 HCAPLUS
DOCUMENT NUMBER: 137:181388
TITLE: **Cloning**, sequence and drug screening use of a **human kinesin** HsKip3a
INVENTOR(S): Beraud, Christophe; Craven, Andrew; Yu, Ming; Sakowicz, Roman; Patel, Umesh A.; Davies, Katherine A.
PATENT ASSIGNEE(S): Cytokinetics, Inc., USA
SOURCE: U.S. Pat. Appl. Publ., 39 pp., Cont.-in-part of U.S. Ser. No. 594,655.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002110883	A1	20020815	US 2001-883096	20010615
US 6680369	B2	20040120		
US 2004229238	A1	20041118	US 2003-723147	20031125
US 2004229308	A1	20041118	US 2003-723148	20031125
PRIORITY APPLN. INFO.:			US 2000-594655 A2	20000615
			US 2001-883096 A3	20010615

AB The invention provides isolated nucleic acid and amino acid sequences of a **human** microtubule **kinesin motor protein** HsKip3a, microtubule-stimulated **ATPase** of HsKip3a, antibodies to HsKip3a, methods of screening for HsKip3a modulators using biol. active HsKip3a, and kits for screening for HsKip3a modulators. The assay for HsKip3a based on detection of ADP production from the HsKip3a's microtubule-stimulated **ATPase** is disclosed.

L14 ANSWER 31 OF 53 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:730433 HCAPLUS
DOCUMENT NUMBER: 137:259335
TITLE: Protein and cDNA sequences of a **human kinesin motor protein** HsKif21b
INVENTOR(S): Beraud, Christophe; Freedman, Richard
PATENT ASSIGNEE(S): Cytokinetics, Inc., USA
SOURCE: U.S., 33 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6455293	B1	20020924	US 2000-718815	20001122
PRIORITY APPLN. INFO.:			US 2000-718815	20001122

AB The present invention discloses protein and cDNA sequences of a **human kinesin motor protein** HsKif21b. Specifically, the invention provides isolated nucleic acid sequence encoding a **kinesin** superfamily moter protein, HsKif21b, with the microtubule stimulated **ATPase** activity. The invention further provides **expression** vector comprising a nucleic acid encoding **kinesin** protein HsKif21b, antibodies to HsKif21b, methods of screening for HsKif21b modulators using biol. active HsKif21b, and kits for screening for HsKif21b modulators.
REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 32 OF 53 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:570667 HCAPLUS
DOCUMENT NUMBER: 137:120726
TITLE: High-throughput screening for modulators of **human kinesin motor protein** Hskif21b and their therapeutic use
INVENTOR(S): Beraud, Christophe; Freedman, Richard
PATENT ASSIGNEE(S): Cytokinetics, Inc., USA
SOURCE: U.S., 34 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6426193	B1	20020730	US 2000-718852	20001122
PRIORITY APPLN. INFO.:			US 2000-718852	20001122

AB The invention provides isolated nucleic acid and amino acid sequences of **kinesin motor protein** HsKif21b of **humans**. Also provided are antibodies to HsKif21b, methods of screening for HsKif21b modulators using biol. active HsKif21b, and kits for screening for HsKif21b modulators. High-throughput screening for modulators of HsKif21b protein is performed in a multi-well plate wherein protein activity is determined by screening for alterations in cell cycle distribution or viability. More specifically, protein activity is determined by screening for the presence, morphol., activity, distribution or amount of mitotic spindles using microtubule gliding assays and microtubule binding assays. HsKif21b **ATPase** protein activity is also measured by production of ADP or phosphate or measuring NADH consumption as a measure or ADP production
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 33 OF 53 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:533983 HCAPLUS
DOCUMENT NUMBER: 137:104773
TITLE: Protein and cDNA sequences of a **human kinesin motor protein** HsKif16a and therapeutical uses
INVENTOR(S): Beraud, Christophe; Freedman, Richard
PATENT ASSIGNEE(S): Cytokinetics, Inc., USA
SOURCE: U.S., 27 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6420162	B1	20020716	US 2000-718810	20001122
PRIORITY APPLN. INFO.:			US 2000-718810	20001122

AB The present invention discloses protein and cDNA sequences of a **human kinesin motor protein** HsKif16a and its therapeutical uses. Specifically, the invention provides isolated nucleic acid sequence encoding a **kinesin** superfamily moter protein, HsKif16a, with the microtubule stimulated **ATPase** activity. The invention further provides **expression** vector comprising a nucleic acid encoding **kinesin** protein HsKif16a, antibodies to HsKif16a, methods of screening for HsKif16a modulators using

biol. active HsKif16a, and kits for screening for HsKif16a modulators.

L14 ANSWER 34 OF 53 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:425364 HCAPLUS
DOCUMENT NUMBER: 137:2235
TITLE: Sequence, characterization and use of **human kinesin**-like protein HsKif16b
INVENTOR(S): Beraud, Christophe; Freedman, Richard
PATENT ASSIGNEE(S): Cytokinetics, Inc., USA
SOURCE: U.S., 30 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6399346	B1	20020604	US 2000-721832	20001124
PRIORITY APPLN. INFO.:			US 2000-721832	20001124

AB The invention provides isolated cDNA and protein sequences of **human** microtubule **kinesin**-like protein HsKif16. The **kinesin**-like protein HsKif16 has microtubule-stimulated **ATPase** activity. The invention also discloses antibodies to HsKif16b, methods of screening for HsKif16b modulators using biol. active HsKif16b, and kits for screening for HsKif16b modulators.

L14 ANSWER 35 OF 53 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:345890 HCAPLUS
DOCUMENT NUMBER: 136:336317
TITLE: Novel **human kinesin motor protein** HsKif21b and cDNA and therapeutic use
INVENTOR(S): Beraud, Christophe; Freedman, Richard
PATENT ASSIGNEE(S): Cytokinetics, Inc., USA
SOURCE: U.S., 33 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6383796	B1	20020507	US 2000-718692	20001122
PRIORITY APPLN. INFO.:			US 2000-718692	20001122

AB The invention provides isolated nucleic acid and amino acid sequences of HsKif21b, antibodies to HsKif21b, methods of screening for HsKif21b modulators using biol. active HsKif21b, and kits for screening for HsKif21b modulators. The mRNA **expression** profile in various tissues are also provided.
REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 36 OF 53 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:327864 HCAPLUS
DOCUMENT NUMBER: 136:320421
TITLE: Novel **human kinesin motor protein** HsKrp5 and cDNA and therapeutic use
INVENTOR(S): Beraud, Christophe; Freedman, Richard
PATENT ASSIGNEE(S): Cytokinetics, Inc., USA
SOURCE: U.S., 29 pp., Cont. of U.S. Ser. No. 641,807.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6379941	B1	20020430	US 2000-724517	20001127
US 6440731	B1	20020827	US 2000-641807	20000817
PRIORITY APPLN. INFO.:			US 2000-641807	A1 20000817

AB The invention provides isolated nucleic acid and amino acid sequences of HsKrp5, antibodies to HsKrp5, methods of screening for HsKrp5 modulators using biol. active HsKrp5, and kits for screening for HsKrp5 modulators. The mRNA **expression** profile in various tissues are also provided.

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 37 OF 53 MEDLINE on STN
ACCESSION NUMBER: 2002361230 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12112153
TITLE: Separating centrosomes interact in the absence of associated chromosomes during mitosis in cultured vertebrate cells.
AUTHOR: Faruki Shamsa; Cole Richard W; Rieder Conly L
CORPORATE SOURCE: Division of Molecular Medicine, Wadsworth Center for Laboratories and Research, Empire State Plaza, Albany, New York, USA.
CONTRACT NUMBER: GMS R37-40198 (NIGMS)
P41-01219
SOURCE: Cell motility and the cytoskeleton, (2002 Jun) 52 (2) 107-21.
Journal code: 8605339. ISSN: 0886-1544.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200211
ENTRY DATE: Entered STN: 20020712
Last Updated on STN: 20021214
Entered Medline: 20021127

AB We detail here how "free" centrosomes, lacking associated chromosomes, behave during mitosis in PtK(2) homokaryons stably **expressing** GFP-alpha-tubulin. As free centrosomes separate during prometaphase, their associated astral microtubules (Mts) interact to form a spindle-shaped array that is enriched for cytoplasmic dynein and Eg5. Over the next 30 min, these arrays become progressively depleted of Mts until the two centrosomes are linked by a single bundle, containing 10-20 Mts, that persists for > 60 min. The overlapping astral Mts within this bundle are loosely organized, and their plus ends terminate near its midzone, which is enriched for an ill-defined matrix material. At this time, the distance between the centrosomes is not defined by external forces because these organelles remain stationary when the bundle connecting them is severed by laser microsurgery. However, since the centrosomes move towards one another in response to monastrol treatment, the **kinesin**-like **motor protein** Eg5 is involved. From these results, we conclude that separating asters interact during prometaphase of mitosis to form a spindle-shaped Mt array, but that in the absence of chromosomes this array is unstable. An analysis of the existing data suggests that the stabilization of spindle Mts during mitosis in vertebrates does not involve the chromatin (i.e., the RCC1/RanGTP pathway), but instead some other chromosomal component, e.g., kinetochores.

L14 ANSWER 38 OF 53 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN

DUPLICATE 8
ACCESSION NUMBER: 2002-08815 BIOTECHDS
TITLE: Novel **human kinesin** superfamily **motor protein**, HsKif17, useful for identifying modulators that may be used to treat cell proliferative disorders, e.g., cancer, hyperplasias, restenosis, autoimmune disease, arthritis, graft rejection; vector-mediated **recombinant** protein gene transfer and **expression** in host cell and algorithm for use in drug screening and cancer, hyperplasia, restenosis, cardiac hypertrophy, immune disorder, inflammation, autoimmunedisease, arthritis, graft rejection and inflammatory bowel disease therapy
AUTHOR: BERAUD C; FREEDMAN R
PATENT ASSIGNEE: CYTOKINETICS INC
PATENT INFO: WO 2001098314 27 Dec 2001
APPLICATION INFO: WO 2000-US19811 20 Jun 2000
PRIORITY INFO: US 2000-597602 20 Jun 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-147789 [19]
AB DERWENT ABSTRACT:

NOVELTY - An isolated novel **human kinesin** superfamily **motor protein**, HsKif17 (I) having a sequence 70% identical to a sequence (S1) of 1030 or 329 amino acids as given in the specification, measured using a sequence comparison algorithm, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following: (1) nucleic acid (II) sequence encoding (I) having microtubule stimulated **ATPase** activity; (2) an **expression** vector (III) comprising (II); (3) a host cell transfected with (III); (4) a compound (IV) that modulates HsKif17 identified utilizing (I); and (5) an isolated nucleic acid comprising a sequence having greater than 60% sequence identity with a nucleotide sequence (S2) of 3661 or 1107 bp as given in the specification.

WIDER DISCLOSURE - Also disclosed are kits for screening modulators of (I).

BIOTECHNOLOGY - Preparation: (I) may be prepared by standard **recombinant** techniques. Preferred Protein: (I) specifically binds to polyclonal antibodies to HsKif17, preferably generated against the motor domain of HsKif17, and (I) preferably comprises an amino acid sequence of HsKif17 motor domain.

ACTIVITY - Cytostatic; Vasotropic; Immunosuppressive; Antiarthritic; Antiinflammatory. No supporting data is given.

MECHANISM OF ACTION - Modulator of HsKif17 activity (claimed). No supporting data is given.

USE - (I) is useful for screening modulators of HsKif17, comprising contacting biologically active HsKif17 with a candidate agent in a test and control concentration and assaying for the level of HsKif17 activity, where a change in activity between the test and control concentration indicates a modulator, and where screening occurs in a multiwell plate as a part of high-throughput screen (claimed). The modulators identified are useful in treatment of cellular proliferation diseases such as cancer, hyperplasias, restenosis, cardiac hypertrophy, immune disorders and inflammation, e.g., autoimmune disease, arthritis, graft rejection, inflammatory bowel disease, proliferation induced after medical procedures such as surgery, angioplasty, etc. (II) is useful for inclusion on GeneChip TM array for use in **expression** monitoring.

ADMINISTRATION - Administration is oral, subcutaneous, intravenous, intranasal, transdermal, intraperitoneal, intramuscular, intrapulmonary, vaginal, rectal, or intraocular. No dosage detail is given.

EXAMPLE - No relevant example is given. (64 pages)

L14 ANSWER 39 OF 53 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN

DUPLICATE 9
ACCESSION NUMBER: 2002-06125 BIOTECHDS
TITLE: **Human** microtubule **motor protein**
, HsKif13a, useful for screening modulators of HsKif13a which are used for modulating cytoskeletal system in conditions of benign tumors and rheumatoid arthritis;
vector-mediated **recombinant** protein gene transfer and **expression** in host cell, polyclonal antibody, high throughput screening and drug screening for disease diagnosis, prevention and gene therapy
AUTHOR: BERAUD C; FREEDMAN R
PATENT ASSIGNEE: CYTOKINETICS INC
PATENT INFO: WO 2001092467 6 Dec 2001
APPLICATION INFO: WO 2000-US17148 26 May 2000
PRIORITY INFO: US 2000-580828 26 May 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-075464 [10]

AB DERWENT ABSTRACT:
NOVELTY - An isolated microtubule **motor protein** (I), which has greater than 70% amino acid sequence identity to a fully defined **human kinesin motor protein** (referred as HsKif13a) motor domain sequence of 353 amino acids (S1) as given in the specification, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following: (1) an isolated nucleic acid sequence (II) encoding a microtubule **motor protein** which has the following properties: (a) microtubules stimulated **ATPase** activity; (b) has a sequence that has greater than 70% amino acid sequence identity to a fully defined HsKif13a protein sequence of 1362 amino acids (S2) as given in the specification; (2) an **expression** vector (III) comprising (II); (3) a host cell (IV) transfected with (III); (4) screening (M1) for modulators of HsKif13a involves: (a) providing biologically active HisKif13a which has microtubules stimulated **ATPase** activity and has a sequence that has greater than 70% amino acid sequence identity to (S2); (b) contacting biologically active HsKif13a with a candidate agent in a test and control concentration; and (c) assaying for the level of HsKif13a such as binding activity or **ATPase** activity, and a change in activity between the test and control concentration indicates a modulator; (5) a compound (V) that modulates HsKif13a identified by (M1); and (6) a nucleic acid comprising a sequence which has greater than 60% sequence identity with a fully defined sequence of 4453 (S3) or 1056 (S4) nucleotides as given in specification.

WIDER DISCLOSURE - The following are disclosed are the following: (1) kits for carrying out screening for modulators of HsKif13a comprising a container holding biologically active HsKif13a, and instructions for assaying the HsKif13a activity; (2) identifying candidate agents that bind to HsKif13a or its portions; and (3) fragments of (II).

BIOTECHNOLOGY - Preparation: (I) is prepared by standard **recombinant** techniques. Preferred Protein: (I) is HsKif13a having a fully defined sequence of 1362 amino acids (S2) as given in specification and specifically binds to polyclonal antibodies to HsKif13a. Optionally, (I) comprises an amino acid sequence of HsKif13a motor domain of (S1) or (S2) and binds to polyclonal antibodies generated against a motor domain of HsKif13a. Preferred Method: (M1) is carried out in a multiwell plate as part of a high throughput screen. The biologically active HsKif13a comprises an amino acid sequence of HsKif13a motor domain of (S1). Preferred Nucleic Acid: (II) preferably encodes a protein having a sequence of (S2), and specifically hybridizes under stringent hybridization conditions to a fully defined sequence of 4453 nucleotides (S3) as given in specification.

ACTIVITY - Cytostatic; vulnerary; antirheumatic; antiarthritic; antigout; antiinflammatory; vasotropic; neuroprotective. No supporting

data is given.

MECHANISM OF ACTION - Cytoskeletal system modulator.

USE - (I) is useful for screening for modulators of HsKif13a (claimed). (V) is useful for modulating cytoskeletal system for treating conditions such as abnormal stimulation of endothelial cells (e.g., atherosclerosis), solid and hematopoietic tumors and tumor metastasis, benign tumors, e.g., hemangiomas, acoustic neuromas, etc., abnormal wound healing, rheumatoid arthritis, Behcet's disease, gout or gouty arthritis, abnormal angiogenesis accompanying: rheumatoid arthritis, psoriasis, diabetic retinopathy, etc. (I) and (II) are useful for the diagnosis, treatment, or prevention of cancer, neurological disorders, and disorders of vesicular transport. Portions of (II) are useful for identifying polymorphic variants, orthologs, alleles and homologs of HsKif13a. Nucleic acids encoding the **kinesins** are useful for inclusion on a GeneChip array for analyzing the cell cycle or proliferation state of cells. Nucleic acid encoding HsKif13 can be combined with nucleic acids encoding other **kinesin** molecules and/or nucleic acids from other genes having roles in DNA replication, cell division or other cell cycle function. Such arrays are useful for analyzing and diagnosing cells in a proliferating state, and diseases such as cancer characterized by presence of the same. HsKif13a and its homologues are also useful as diagnostic tools in vitro. The **kinesins** and in particular their motor domains can be used for separation of a specific ligand from a heterologous mixtures in aqueous solution. The **kinesins** and in particular their motor domains can also be used in the field of nanotechnology.

ADMINISTRATION - No specific administration details are given.

EXAMPLE - None given(55 pages)

L14 ANSWER 40 OF 53 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
DUPLICATE 10

ACCESSION NUMBER: 2002-10485 BIOTECHDS

TITLE: New **human kinesin motor protein**, HsKif16a, having microtubule-stimulated **ATPase** activity, useful for identifying specific modulators for e.g. treating cancer; **recombinant** protein useful for tumor, neurological disorder, vesicular transport disorder, autoimmune disease, arthritis, graft rejection and inflammation therapy and diagnosis

AUTHOR: BERAUD C; FREEDMAN R

PATENT ASSIGNEE: CYTOKINETICS INC

PATENT INFO: US 6333184 25 Dec 2001

APPLICATION INFO: US 2000-718841 22 Nov 2000

PRIORITY INFO: US 2000-718841 22 Nov 2000

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: WPI: 2002-163180 [21]

AB DERWENT ABSTRACT:

NOVELTY - An isolated protein (I) having over 70 % sequence identity with sequences S2 (563 amino acids (aa)) or S4 (357 aa), both given in the specification, comprising a motor domain (MD), having microtubule-stimulated ATP(adenosine triphosphate)ase activity, and designated as **human kinesin motor protein** HsKif16a, is new.

WIDER DISCLOSURE - Also disclosed are: (1) nucleic acid (II) encoding (I), especially 1689 base pair (bp) (S1) and 1070 bp (S3) sequences that encode S2 and S4, also sequences that hybridize under stringent conditions to the complements of S1 and S3, their fragments and their use as probes or for **recombinant** protein **expression**; (2) **expression** vectors containing (II); (3) identifying modulators of the activity of a target protein (TP) that (in)directly produces ADP (adenosine diphosphate) or phosphate by incubating TP with test compound, performing a reaction that uses ADP or

phosphate, and measuring any change in the amount of these compounds caused by the test compound; (4) modulators of TP and their use for treating cell proliferation, e.g. cancer, hyperplasia, restenosis, cardiac hypertrophy, immune disorders and inflammation; (5) antibodies to (I) and their use as immunoassay reagents.

BIOTECHNOLOGY - Preparation: Nucleic acid encoding S2 was isolated from a cDNA or genomic library by usual **cloning** methods or from an **expression** library using appropriate antisera (neither process exemplified). Once isolated, it can be **expressed** in usual vector/host systems.

ACTIVITY - Cytostatic; neurotropic; immunosuppressive; antiarthritic; antiinflammatory. No biological data is given.

MECHANISM OF ACTION - Microtubule-stimulated **ATPase** activity inhibitor.

USE - (I), also the nucleic acid encoding it and modulators of (I), are useful in diagnosis, treatment and prevention of cancer, neurological disorders, disorders of vesicular transport, autoimmune diseases, arthritis, graft rejection, and inflammation. (I) is also used to identify its specific modulators, potentially useful as therapeutic agents.

ADMINISTRATION - Modulators of (I) are administered orally, topically, by injection etc. No doses are suggested.

EXAMPLE - No suitable example is given.(27 pages)

L14 ANSWER 41 OF 53 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2002-06182 BIOTECHDS
TITLE: New isolated nucleic acid encoding **human kinesin motor protein**, HsKip3 for diagnosing, preventing and treating e.g. cancer, neurological disorders, vesicular transport disorders, or autoimmune diseases;
vector-mediated gene transfer, **expression** in host cell, antibody and high throughput screening for **recombinant** protein production, drug screening and disease diagnosis, therapy, prevention and genetherapy
AUTHOR: BERAUD C; CRAVEN A; YU M; SAKOWICZ R; PATEL U A; DAVIES K A
PATENT ASSIGNEE: CYTOKINETICS INC
PATENT INFO: WO 2001096593 20 Dec 2001
APPLICATION INFO: WO 2000-US19308 15 Jun 2000
PRIORITY INFO: US 2000-594655 15 Jun 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-130739 [17]
AB DERWENT ABSTRACT:

NOVELTY - A new isolated nucleic acid sequence encoding a microtubule **motor protein** (HsKip3) that: (a) includes microtubule stimulated **ATPase** activity; and (b) has a sequence with greater than 70 % amino acid sequence identity to a sequence of 864 (I) or 338 (II) amino acids, given in the specification, as measured using a sequence comparison algorithm.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following: (1) an **expression** vector comprising the new nucleic acid encoding a microtubule **motor protein**; (2) a host cell transfected with the vector; (3) an isolated microtubule **motor protein** having greater than 70 % amino acid sequence identity to a sequence of 864 (I) or 338 (II) amino acids, given in the specification, as measured using a sequence comparison algorithm; (4) screening **human kinesin motor protein** (HsKip3) modulators by: (a) providing a biologically active HsKip3 having the following properties: (i) an activity which includes microtubule stimulated **ATPase** activity; and (ii) a sequence having greater than 70 % amino acid sequence identity to HsKip3a of (I) or (II) as measured using a sequence comparison algorithm; (b) contacting the biologically active HsKip3a with a candidate agent in a

test and control concentration; and (c) assaying for the level of HsKip3a activity selected from binding activity or **ATPase** activity, where a change in activity between the test and control concentration indicates a modulator; (5) a compound that modulates HsKip3 identified from the method of (4); and (6) an isolated nucleic acid comprising a sequence having greater than 60 % sequence identity with a sequence of 4108 (III) or 1013 (IV) base pairs, given in the specification.

BIOTECHNOLOGY - Preferred Nucleic Acid: The nucleic acid encodes a protein that specifically binds to polyclonal antibodies to a protein comprising (I) or (II). The nucleic acid encodes (I) or (II), and has the sequence (III) or (IV). The nucleic acid may also selectively hybridize under stringent hybridization conditions to (III) or (IV). Preferred Protein: The protein specifically binds to polyclonal antibodies, where the protein is HsKip3 having the sequence of (I) or (II). The protein specifically binds to polyclonal antibodies generated against a motor domain of HsKip3. The protein may also comprise an amino acid sequence of a HsKip3a motor domain. Preferred Method: The screening occurs in a multi-well plate as part of a high-throughput screen. The biologically active HsKip3a comprises an amino acid sequence of a HsKip3a motor domain. Preparation: The nucleic acid is prepared by standard **recombinant** or biochemical techniques.

ACTIVITY - Cytostatic; neuroprotective; immunosuppressive; antiarthritic; antiinflammatory; vasotropic; cardiant. No biological data is given.

MECHANISM OF ACTION - Gene therapy; **human kinesin motor protein** (HsKip3) modulator.

USE - The HsKip3 protein and nucleic acid encoding the protein are useful in diagnosing, preventing and treating cancer, neurological disorders, vesicular transport disorders, autoimmune disease, arthritis, graft rejection, inflammatory bowel disease, and proliferation induced after medical procedures. Antibodies against HsKip3 may be used to determine the presence of HsKip3a and to identify modulators of the interaction between the antibody and HsKip3a. Modulators of HsKip3 are useful in the treatment of cellular proliferation, including cancer, hyperplasias, restenosis, cardiac hypertrophy, immune disorders and inflammation.

ADMINISTRATION - Administration can be oral, subcutaneous, intravenous, intranasal, transdermal, intraperitoneal, intramuscular, intrapulmonary, vaginal, rectally or intraocular. No specific dosage is given.

EXAMPLE - Experimental protocols are described but no results were given. (70 pages)

L14 ANSWER 42 OF 53 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:915044 HCAPLUS
DOCUMENT NUMBER: 136:50046
TITLE: **Cloning**, sequence and use of **human kinesin** HsKif9
INVENTOR(S): Beraud, Christophe; Freedman, Richard
PATENT ASSIGNEE(S): Cytokinetics, Inc., USA
SOURCE: U.S., 27 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6331430	B1	20011218	US 2000-634957	20000808
US 6355447	B1	20020312	US 2000-723153	20001127
US 6387679	B1	20020514	US 2000-723429	20001127
WO 2002012541	A2	20020214	WO 2001-US24919	20010807

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,

CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2000-634957 A1 20000808

AB The invention provides isolated nucleic acid and amino acid sequences of a new **human kinesin motor protein**, HsKif9, antibodies to HsKif9, methods of screening for HsKif9 modulators using biol. active HsKif9, and kits for screening for HsKif9 modulators.

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 43 OF 53 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:915038 HCAPLUS
DOCUMENT NUMBER: 136:49393
TITLE: cDNA and protein sequences of novel **human** microtubule **motor protein** MCAK and their use screening for antiproliferative drugs
INVENTOR(S): Beraud, Christophe; Sakowicz, Roman
PATENT ASSIGNEE(S): Cytokinetics, Inc., USA
SOURCE: U.S., 44 pp., Cont.-in-part of U.S. Ser. No. 295,612.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6331424	B1	20011218	US 2000-594669	20000615
US 6410254	B1	20020625	US 1999-314464	19990518
US 6387644	B1	20020514	US 2000-724224	20001128
US 6762043	B1	20040713	US 2002-93317	20020306
US 2004142397	A1	20040722	US 2004-797893	20040309

PRIORITY APPLN. INFO.:
US 1999-295612 A2 19990420
US 1999-314464 A2 19990518
US 2000-597292 B1 20000620
US 2000-724224 A1 20001128
US 2002-93317 A3 20020306

AB The invention provides isolated cDNA and protein sequences of **human** microtubule **motor protein** MCAK (mitotic centromere-associated **kinesin**). The invention also discloses method of detecting the protein by antibodies to MCAK, methods of screening for MCAK modulators using biol. active MCAK, and kits for screening for MCAK modulators. The present invention provides high throughput screening systems for identifying compds. useful in the treatment of cellular proliferation disorders. The method can be performed in plurality simultaneously with fluorescence or absorbance readouts.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 44 OF 53 MEDLINE on STN
ACCESSION NUMBER: 2001644069 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11696325
TITLE: The Rab7 effector protein RILP controls lysosomal transport by inducing the recruitment of dynein-dynactin motors.
AUTHOR: Jordens I; Fernandez-Borja M; Marsman M; Dusseljee S; Janssen L; Calafat J; Janssen H; Wubbolts R; Neefjes J
CORPORATE SOURCE: Division of Tumour Biology, The Netherlands Cancer

Institute, Amsterdam 1066CX, The Netherlands.
SOURCE: Current biology : CB, (2001 Oct 30) 11 (21) 1680-5.
Journal code: 9107782. ISSN: 0960-9822.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200201
ENTRY DATE: Entered STN: 20011107
Last Updated on STN: 20020125
Entered Medline: 20020122

AB Many intracellular compartments, including MHC class II-containing lysosomes, melanosomes, and phagosomes, move along microtubules in a bidirectional manner and in a stop-and-go fashion due to the alternating activities of a plus-end directed **kinesin** motor and a minus-end directed dynein-dynactin motor. It is largely unclear how **motor proteins** are targeted specifically to different compartments. Rab GTPases recruit and/or activate several proteins involved in membrane fusion and vesicular transport. They associate with specific compartments after activation, which makes Rab GTPases ideal candidates for controlling **motor protein** binding to specific membranes. We and others [7] have identified a protein, called RILP (for Rab7-interacting lysosomal protein), that interacts with active Rab7 on late endosomes and lysosomes. Here we show that RILP prevents further cycling of Rab7. RILP **expression** induces the recruitment of functional dynein-dynactin motor complexes to Rab7-containing late endosomes and lysosomes. Consequently, these compartments are transported by these motors toward the minus end of microtubules, effectively inhibiting their transport toward the cell periphery. This signaling cascade may be responsible for timed and selective dynein motor recruitment onto late endosomes and lysosomes.

L14 ANSWER 45 OF 53 MEDLINE on STN DUPLICATE 11
ACCESSION NUMBER: 2001031113 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10913441
TITLE: Kinectin-**kinesin** binding domains and their effects on organelle motility.
AUTHOR: Ong L L; Lim A P; Er C P; Kuznetsov S A; Yu H
CORPORATE SOURCE: National University Medical Institutes, Faculty of Medicine, National University of Singapore, Singapore 117597.
SOURCE: Journal of biological chemistry, (2000 Oct 20) 275 (42) 32854-60.
Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200011
ENTRY DATE: Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20001120

AB Intracellular organelle motility involves **motor proteins** that move along microtubules or actin filaments. One of these **motor proteins**, **kinesin**, was proposed to bind to kinectin on membrane organelles during movement. Whether kinectin is the **kinesin** receptor on organelles with a role in organelle motility has been controversial. We have characterized the sites of interaction between **human** kinectin and conventional **kinesin** using in vivo and in vitro assays. The kinectin-binding domain on the **kinesin** tail partially overlaps its head-binding domain and the myosin-Va binding domain. The **kinesin**-binding domain on kinectin resides near the COOH terminus and enhances the microtubule-stimulated **kinesin-ATPase** activity, and

the overexpression of the kinectin-**kinesin** binding domains inhibited **kinesin**-dependent organelle motility in vivo. These data, when combined with other studies, suggest a role for kinectin in organelle motility.

L14 ANSWER 46 OF 53 MEDLINE on STN
ACCESSION NUMBER: 2001191118 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11153697
TITLE: Colocalization of dynactin subunits P150Glued and P50 with melanosomes in normal **human** melanocytes.
AUTHOR: Vancoillie G; Lambert J; Haeghen Y V; Westbroek W; Mulder A; Koerten H K; Mommaas A M; Van Oostveldt P; Naeyaert J M
CORPORATE SOURCE: Department of Dermatology, University Hospital, Ghent, Belgium.
SOURCE: Pigment cell research / sponsored by the European Society for Pigment Cell Research and the International Pigment Cell Society, (2000 Dec) 13 (6) 449-57.
Journal code: 8800247. ISSN: 0893-5785.
PUB. COUNTRY: Denmark
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200104
ENTRY DATE: Entered STN: 20010410
Last Updated on STN: 20010410
Entered Medline: 20010405

AB Melanocytic dendrites consist of a central core of microtubules (MT) and a subcortical actin network. In previous reports we showed the presence of MT-associated **motor proteins kinesin** and cytoplasmic dynein on the melanosomal surface, forming a link with MT (Vancoillie et al. J Invest Dermatol 2000;114:421-429; Vancoillie et al. Br J Dermatol 2000;143:258-306). We could also demonstrate the association of kinectin, the **kinesin** receptor, with melanosomes. The interaction of cytoplasmic dynein with its cargoes is thought to be indirectly mediated by dynactin, a complex that binds to the dynein intermediate chain. Therefore, in this study, we investigated the in vitro **expression** of dynactin subunits P150Glued and P50 in normal **human** epidermal melanocytes, keratinocytes, and dermal fibroblasts by reverse transcription-polymerase chain reaction and northern blot analysis. In an attempt to gain an insight into the subcellular localization of dynactin, immunofluorescence and immunoelectron microscopy (IEM) studies were performed. The two isoforms of P150Glued and P50 are **expressed** in all studied skin cells. Immunofluorescence staining shows punctate distributions for P150Glued and P50 in melanocytes. P150Glued shows a clear centrosomal staining and accentuation in the dendrite tips. P50 is also accentuated in the perinuclear area and dendrite tips. Immunofluorescence double-labeling with a melanosome marker showed apparent colocalization of both P150Glued and P50 with melanosomes. By IEM, P50 is detected on the surface of the majority of melanosomes in melanocytes. The colocalization of different subunits of the dynactin complex with melanosomes is consistent with the earlier finding of cytoplasmic dynein association with melanosomes and supports the hypothesis that this complex could form a link between cytoplasmic dynein and the melanosomal membrane.

L14 ANSWER 47 OF 53 MEDLINE on STN
ACCESSION NUMBER: 2000146117 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10679326
TITLE: Role of the **kinesin** neck linker and catalytic core in microtubule-based motility.
COMMENT: Comment in: Curr Biol. 2000 Feb 10;10(3):R124-6. PubMed ID: 10679320
AUTHOR: Case R B; Rice S; Hart C L; Ly B; Vale R D
CORPORATE SOURCE: Departments of Pharmacology, Biochemistry and Biophysics,

University of California, San Francisco 94143, USA.
SOURCE: Current biology : CB, (2000 Feb 10) 10 (3) 157-60.
Journal code: 9107782. ISSN: 0960-9822.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200004
ENTRY DATE: Entered STN: 20000421
Last Updated on STN: 20000421
Entered Medline: 20000411

AB **Kinesin motor proteins** execute a variety of intracellular microtubule-based transport functions [1]. **Kinesin** motor domains contain a catalytic core, which is conserved throughout the **kinesin** superfamily, followed by a neck region, which is conserved within subfamilies and has been implicated in controlling the direction of motion along a microtubule [2] [3]. Here, we have used mutational analysis to determine the functions of the catalytic core and the approximately 15 amino acid 'neck linker' (a sequence contained within the neck region) of **human** conventional **kinesin**.
Replacement of the neck linker with a designed random coil resulted in a 200-500-fold decrease in microtubule velocity, although basal and microtubule-stimulated **ATPase** rates were within threefold of wild-type levels. The catalytic core of **kinesin**, without any additional **kinesin** sequence, displayed microtubule-stimulated **ATPase** activity, nucleotide-dependent microtubule binding, and very slow plus-end-directed motor activity. On the basis of these results, we propose that the catalytic core is sufficient for allosteric regulation of microtubule binding and **ATPase** activity and that the **kinesin** neck linker functions as a mechanical amplifier for motion. Given that the neck linker undergoes a nucleotide-dependent conformational change [4], this region might act in an analogous fashion to the myosin converter, which amplifies small conformational changes in the myosin catalytic core [5,6].

L14 ANSWER 48 OF 53 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:59749 HCAPLUS
DOCUMENT NUMBER: 135:150370
TITLE: ES cell neural differentiation reveals a substantial number of novel ESTs
AUTHOR(S): Bain, G.; Mansergh, F. C.; Wride, M. A.; Hance, J. E.; Isogawa, A.; Rancourt, S. L.; Ray, W. J.; Yoshimura, Y.; Tsuzuki, T.; Gottlieb, D. I.; Rancourt, D. E.
CORPORATE SOURCE: Department of Oncology, Department of Biochemistry and Molecular Biology, The University of Calgary, Calgary, AB, T2N 4N1, Can.
SOURCE: Functional & Integrative Genomics (2000), 1(2), 127-139
CODEN: FIGUBY; ISSN: 1438-793X
PUBLISHER: Springer-Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A method was used for synchronously differentiating murine embryonic stem (ES) cells into functional neurons and glia in culture. Using subtractive hybridization, .apprx.1200 cDNA **clones** were isolated from ES cell cultures at the neural precursor stage of neural differentiation. Pilot studies indicated that this library is a good source of novel neuro-embryonic cDNA **clones**. Therefore, the entire library was screened by single-pass sequencing. Characterization of 604 non-redundant cDNA **clones** by BLAST revealed 96 novel **expressed** sequence tags (ESTs) and an addnl. 197 matching uncharacterized ESTs or genomic **clones** derived from genome sequencing projects. With the exception of a handful of genes, whose functions are still unclear, most of the 311 known genes identified in this screen are

expressed in embryonic development and/or the nervous system. At least 80 of these genes are implicated in disorders of differentiation, neural development, and/or neural function. This study provides an initial snapshot of gene **expression** during early neural differentiation of ES cell cultures. Given the recent identification of **human** ES cells, further characterization of these novel and uncharacterized ESTs has the potential to identify genes that may be important in nervous system development, physiol., and disease.
REFERENCE COUNT: 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 49 OF 53 MEDLINE on STN
ACCESSION NUMBER: 1999362718 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10430903
TITLE: Allele-specific activators and inhibitors for **kinesin**.
AUTHOR: Kapoor T M; Mitchison T J
CORPORATE SOURCE: Department of Cell Biology, Harvard Medical School, Boston, MA 02115, USA.. Tarun_Kapoor@hms.harvard.edu
CONTRACT NUMBER: GM39565 (NIGMS)
SOURCE: Proceedings of the National Academy of Sciences of the United States of America, (1999 Aug 3) 96 (16) 9106-11.
Journal code: 7505876. ISSN: 0027-8424.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199909
ENTRY DATE: Entered STN: 19990925
Last Updated on STN: 19990925
Entered Medline: 19990909
AB Members of the **kinesin** superfamily are force-generating **ATPases** that drive movement and influence cytoskeleton organization in cells. Often, more than one **kinesin** is implicated in a cellular process, and many **kinesins** are proposed to have overlapping functions. By using conventional **kinesin** as a model system, we have developed an approach to activate or inhibit a specific **kinesin** allele in the presence of other similar **motor proteins**. Modified ATP analogs are described that do not activate either conventional **kinesin** or another superfamily member, Eg5. However, a **kinesin** allele with Arg-14 in its nucleotide binding pocket mutated to alanine can use a subset of these nucleotide analogs to drive microtubule gliding. Cyclopentyl-ATP is one such analog. Cyclopentyl-adenylylimidodiphosphate, a nonhydrolyzable form of this analog, inhibits the mutant allele in microtubule-gliding assays, but not wild-type **kinesin** or Eg5. We anticipate that the incorporation of **kinesin** mutants and allele-specific activators and inhibitors in in vitro assays should clarify the role of individual **motor proteins** in complex cellular processes.

L14 ANSWER 50 OF 53 MEDLINE on STN DUPLICATE 12
ACCESSION NUMBER: 1998175913 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9506951
TITLE: Complex formation of SMAP/KAP3, a KIF3A/B **ATPase** motor-associated protein, with a **human** chromosome-associated polypeptide.
AUTHOR: Shimizu K; Shirataki H; Honda T; Minami S; Takai Y
CORPORATE SOURCE: Department of Molecular Biology and Biochemistry, Osaka University Medical School, Suita 565, Japan.
SOURCE: Journal of biological chemistry, (1998 Mar 20) 273 (12) 6591-4.
Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF020043
ENTRY MONTH: 199804
ENTRY DATE: Entered STN: 19980422
Last Updated on STN: 19990129
Entered Medline: 19980416

AB We have recently isolated SMAP (Smg GDS-associated protein; Smg GDS: small G protein GDP dissociation stimulator) as a novel Smg GDS-associated protein, which has Armadillo repeats and is phosphorylated by Src tyrosine kinase. SMAP is a **human** counterpart of mouse KAP3 (**kinesin** superfamily-associated protein) that is associated with mouse KIF3A/B (a **kinesin** superfamily protein), which functions as a microtubule-based **ATPase** motor for organelle transport. We isolated here a SMAP-interacting protein from a **human** brain cDNA library, identified it to be a **human** homolog of Xenopus XCAP-E (Xenopus chromosome-associated polypeptide), a subunit of condensins that regulate the assembly and structural maintenance of mitotic chromosomes, and named it HCAP (**Human** chromosome-associated polypeptide). Tissue and subcellular distribution analyses indicated that HCAP was ubiquitously **expressed** and highly concentrated in the nuclear fraction, where SMAP and KIF3B were also present. SMAP was extracted as a ternary complex with HCAP and KIF3B from the nuclear fraction in the presence of Mg-ATP. The results suggest that SMAP/KAP3 serves as a linker between HCAP and KIF3A/B in the nucleus, and that SMAP/KAP3 plays a role in the interaction of chromosomes with an **ATPase motor protein**.

L14 ANSWER 51 OF 53 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation. on STN
ACCESSION NUMBER: 1998:169574 SCISEARCH
THE GENUINE ARTICLE: YY319
TITLE: A specific light chain of **kinesin** associates with mitochondria in cultured cells
AUTHOR: Khodjakov A (Reprint); Lizunova E M; Minin A A; Koonce M P; Gyoeva F K
CORPORATE SOURCE: NEW YORK STATE DEPT HLTH, WADSWORTH CTR LABS & RES, DIV CELLULAR MED, ALBANY, NY 12201 (Reprint); RUSSIAN ACAD SCI, INST PROT RES, MOSCOW 117334, RUSSIA; NEW YORK STATE DEPT HLTH, WADSWORTH CTR LABS & RES, DIV MOL MED, ALBANY, NY 12201
COUNTRY OF AUTHOR: USA; RUSSIA
SOURCE: MOLECULAR BIOLOGY OF THE CELL, (FEB 1998) Vol. 9, No. 2, pp. 333-343.
Publisher: AMER SOC CELL BIOLOGY, PUBL OFFICE, 9650 ROCKVILLE PIKE, BETHESDA, MD 20814.
ISSN: 1059-1524.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 43

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The **motor protein kinesin** is implicated in the intracellular transport of organelles along microtubules. **Kinesin** light chains (KLCs) have been suggested to mediate the selective binding of **kinesin** to its cargo. To test this hypothesis, we isolated KLC cDNA **clones** from a CHO-KI **expression** library. Using sequence analysis, they were found to encode five distinct isoforms of KLCs. The primary region of variability Lies at the carboxyl termini, which were identical or highly homologous to carboxyl-terminal regions of rat KLC B and C, **human** KLCs, sea urchin KLC isoforms 1-3, and squid KLCs. To examine whether the KLC isoforms associate with different cytoplasmic organelles, we made an

antibody specific for a 10-amino acid sequence unique to B and C isoforms. In an indirect immunofluorescence assay, this antibody specifically labeled mitochondria in cultured CV-1 cells and **human** skin fibroblasts. On Western blots of total cell homogenates, it recognized a single KLC isoform, which copurified with mitochondria. Taken together, these data indicate a specific association of a particular KLC (B type) with mitochondria, revealing that different KLC isoforms can target **kinesin** to different cargoes.

L14 ANSWER 52 OF 53 MEDLINE on STN
ACCESSION NUMBER: 1999000029 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9786090
TITLE: Identification and molecular characterization of the p24 dynactin light chain.
AUTHOR: Pfister K K; Benashski S E; Dillman J F 3rd; Patel-King R S; King S M
CORPORATE SOURCE: Department of Cell Biology, University of Virginia Health Science Center, Charlottesville 22908-0439, USA.. kkp9w@virginia.edu
CONTRACT NUMBER: GM 51293 (NIGMS)
NS 29996 (NINDS)
SOURCE: Cell motility and the cytoskeleton, (1998) 41 (2) 154-67. Journal code: 8605339. ISSN: 0886-1544.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF098508
ENTRY MONTH: 199812
ENTRY DATE: Entered STN: 19990115
Last Updated on STN: 20000303
Entered Medline: 19981218

AB Intracellular transport along microtubules uses the **motor proteins** cytoplasmic dynein and **kinesin**. Cytoplasmic dynein is responsible for movement to the minus ends of microtubules and the evidence indicates that dynein interacts with another protein complex, dynactin. In order to better understand how these proteins function, we have sought to identify and **clone** the subunit polypeptides of these two complexes, in particular their light chains. Dynactin is made up of eight subunits of approximately 24,000 to 160,000 Da. In order to **clone** the p24 subunit, the components of purified dynactin were resolved by SDS polyacrylamide gel electrophoresis. The amino acid sequence of a tryptic peptide from the 24,000-Mr region of the gel was obtained and a candidate polypeptide identified by a screen of the databases. This polypeptide has a predicted molecular weight of 20,822 Da. Using an antibody to a different region of this protein, we demonstrate that it copurifies with microtubules and elutes from the microtubule pellet with characteristics similar to those of the dynactin complex and distinct from those of cytoplasmic dynein. This polypeptide co-sediments with dynactin on sucrose density gradients and it also co-immunoprecipitates with dynactin, but not with **kinesin** or cytoplasmic dynein. Together these results demonstrate that this polypeptide is the p24 subunit of dynactin. Analysis of the predicted amino acid sequence of p24 shows that it is a unique protein that has no significant similarity to known enzymes or other proteins. Structural analysis indicates that most of this protein will form an alpha-helix and that portions of the molecule may participate in the formation of coiled-coils. Since stoichiometric analysis of dynactin indicates that there is one molecule of p24 per dynactin complex, these characteristics suggest that this polypeptide may be involved in protein-protein interactions, perhaps in the assembly of the dynactin complex.

L14 ANSWER 53 OF 53 MEDLINE on STN
ACCESSION NUMBER: 1998382469 MEDLINE

DOCUMENT NUMBER: PubMed ID: 9714769
TITLE: The role of microtubule-based **motor proteins** in maintaining the structure and function of the Golgi complex.
AUTHOR: Burkhardt J K
CORPORATE SOURCE: Department of Pathology, The University of Chicago, 5841 S. Maryland Ave. MC1089, Chicago, IL 60637, USA.. jburkhar@flowcity.bsd.uchicago.edu
SOURCE: Biochimica et biophysica acta, (1998 Aug 14) 1404 (1-2) 113-26. Ref: 89
Journal code: 0217513. ISSN: 0006-3002.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199810
ENTRY DATE: Entered STN: 19990106
Last Updated on STN: 19990106
Entered Medline: 19981027

AB The intimate association between the Golgi complex and the microtubule cytoskeleton plays an important role in Golgi structure and function. Recent evidence indicates that the dynamic flow of material from the ER to the Golgi is crucial to maintaining the integrity of the Golgi complex and its characteristic location within the cell, and it is now clear that this flow is dependent on the ongoing activity of microtubule **motor proteins**. This review focuses primarily on recent microinjection and **expression** studies which have explored the role of individual microtubule **motor proteins** in controlling Golgi dynamics. The collective evidence shows that one or more isoforms of cytoplasmic dynein, together with its cofactor the dynactin complex, are required to maintain a juxtanuclear Golgi complex in fibroblasts. Although questions remain about how dynein and dynactin are linked to the Golgi, there is evidence that the Golgi-spectrin lattice is involved. **Kinesin** and **kinesin**-like proteins appear to play a smaller role in Golgi dynamics, though this may be very cell-type specific. Moreover, new evidence about the role of **kinesin** family members continues to emerge. Thanks in part to recent advances in our understanding of these molecular motors, our current view of the Golgi complex is of an organelle in flux, undergoing constant renewal. Future research will be aimed at elucidating how and to what extent these **motor proteins** function as regulators of Golgi function.

```
=> e beraud c/au
E1            1     BERAUD ALEXANDRE/AU
E2            9     BERAUD B/AU
E3          490 --> BERAUD C/AU
E4            1     BERAUD C L/AU
E5            9     BERAUD CASSEL A M/AU
E6            3     BERAUD CATHERINE/AU
E7            1     BERAUD CEDRIC FRANCIS/AU
E8            1     BERAUD CH J/AU
E9          124     BERAUD CHRISTOPHE/AU
E10           4     BERAUD CL/AU
E11          19     BERAUD COLOMB E/AU
E12           1     BERAUD COLOMB ELIAINE/AU

=> s e3
L15         490 "BERAUD C"/AU

=> d his
```

```
     (FILE 'HOME' ENTERED AT 15:22:15 ON 08 FEB 2005)

     FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS,
     LIFESCI' ENTERED AT 15:22:55 ON 08 FEB 2005
L1          8658 S MOTOR (A) PROTEIN?
L2         15091 S KINESIN?
L3          4153 S L1 AND L2
L4           722 S HUMAN AND L3
L5       6911768 S CLON? OR EXPRESS? OR RECOMBINANT
L6           334 S L4 AND L5
L7         10363 S "KID"
L8             6 S L6 AND L7
L9             3 DUP REM L8 (3 DUPLICATES REMOVED)
L10           52 S "KINESIN-LIKE DNA BINDING PROTEIN"
L11           22 DUP REM L10 (30 DUPLICATES REMOVED)
L12       338489 S ATPASE?
L13           72 S L6 AND L12
L14           53 DUP REM L13 (19 DUPLICATES REMOVED)
                 E BERAUD C/AU
L15          490 S E3

=> s l7 and l15
L16            3 L7 AND L15

=> dup rem l16
PROCESSING COMPLETED FOR L16
L17            3 DUP REM L16 (0 DUPLICATES REMOVED)

=> d 1-3 ibib ab

L17   ANSWER 1 OF 3  BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2004-20378  BIOTECHDS
TITLE:            Novel isolated microtubule motor protein, useful for
                  identifying candidate agent modulating function of protein,
                  for treating cellular proliferative diseases such as cancer,
                  restenosis, cardiac hypertrophy and inflammation;
                    recombinant protein production for use in disease therapy
AUTHOR:           BERAUD C
PATENT ASSIGNEE:  CYTOKINETICS INC
PATENT INFO:      US 2004142397 22 Jul 2004
APPLICATION INFO: US 2004-797893 9 Mar 2004
PRIORITY INFO:    US 2004-797893 9 Mar 2004; US 1999-295612 20 Apr 1999
DOCUMENT TYPE:    Patent
LANGUAGE:         English
OTHER SOURCE:     WPI: 2004-552562 [53]
AB    DERWENT ABSTRACT:
      NOVELTY - An isolated microtubule motor protein (I) having greater than
      75% amino acid sequence identity to any one of 4 fully defined sequences
      (S1) of 370, 512, 346 and 487 amino acids as given in the specification,
      as measured using a sequence comparison algorithm, is new.
           DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for: (1)
      an isolated nucleic acid sequence (II) encoding (I), where the activity
      of (I) includes microtubule stimulated ATPase activity, and the nucleic
      acid comprises a sequence which has greater than 75% sequence identity to
      any one of 4 fully defined sequences of 1115, 1538, 1041 and 1464 base
      pairs (S2) as given in the specification, as measured using sequence
      comparison algorithm; (2) treating cellular proliferative diseases,
      involves administering a candidate agent identified using (I); and (3)
      inhibiting (I) such as kinesin-like DNA binding protein (Kid)
      or its fragment, involves contacting (I) with a candidate agent
      identified using (I).
           BIOTECHNOLOGY - Preferred Protein: (I) has an amino acid sequence
      chosen from any one of (S1). Preferred Nucleic Acid: (II) encodes any one
      of (S1). (II) has a nucleotide sequence chosen from any one of (S2).
```

ACTIVITY - Cytostatic; Vasotropic; Cardiant; Antiinflammatory; Immunosuppressive; Antiarthritic; Gastrointestinal-Gen.; Vulnerary; Osteopathic. No supporting data is given.

MECHANISM OF ACTION - Inhibitor of (I) such as **Kid** (claimed).

USE - (I) is useful for identifying a candidate agent as a modulator of function of (I) such as **Kid**, or its fragment, which involves adding a candidate agent to a mixture comprising (I) that directly or indirectly produces ADP or phosphate under conditions which normally allow the production of ADP or phosphate, subjecting the mixture to a reaction that uses the ADP or phosphate as a substrate under conditions which normally allow the ADP or phosphate to be utilized, and determining the level of activity of the reaction, where a change in the level between the presence and absence of the candidate agent indicates a modulator of the function of (I). The determining step is carried out by fluorescent, luminescent, radioactive, or absorbance readout. The level of activity of the reaction is determined at multiple time points. In the above method, several agents are added. (I) directly produces phosphate or ADP. (I) comprises an amino acid sequence, which has greater than 70% sequence identity with any one of (S1). The candidate agent identified using (I) is useful for treating cellular proliferative diseases such as cancer, hyperplasia, restenosis, cardiac hypertrophy, immune disorders and inflammation (claimed). The compound identified by using (I) is useful for treating autoimmune disease, arthritis, inflammatory bowel disease, solid tumors such as skin carcinomas, breast carcinomas, cervical carcinomas, testicular carcinomas, bronchogenic carcinoma, alveolar carcinoma, adenocarcinoma, tumor of bone such as osteogenic sarcoma, multiple myeloma, malignant melanoma, etc. The compound identified by using (I), is also useful for treating wound and inflammation.

ADMINISTRATION - The candidate agent identified using (I), is administered by oral, subcutaneous, intravenous, intranasal, transdermal, intraperitoneal, intramuscular, intrapulmonary, vaginal, rectal or intraocular route. No specific dosage details are given.

ADVANTAGE - (I) enables high throughput screening of compounds which in turn is useful for treating cellular proliferation disorders.

EXAMPLE - No relevant example is given. (27 pages)

L17 ANSWER 2 OF 3 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2004-19859 BIOTECHDS
TITLE: New isolated microtubule motor protein, useful for screening modulators for treating cellular proliferation disorders such as cancer, hyperplasias, restenosis, cardiac hypertrophy, immune disorders and inflammation;
microtubule motor protein isolation for use in disease therapy and drug screening
AUTHOR: **BERAUD C**
PATENT ASSIGNEE: CYTOKINETICS INC
PATENT INFO: US 6762043 13 Jul 2004
APPLICATION INFO: US 2002-93317 6 Mar 2002
PRIORITY INFO: US 2002-93317 6 Mar 2002; US 1999-295612 20 Apr 1999
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2004-532491 [51]
AB DERWENT ABSTRACT:

NOVELTY - An isolated microtubule motor protein, where the protein comprises a sequence comprising 370, 512, 346 or 487 amino acids (SEQ ID NO: 2, 4, 6, or 8, respectively) given in the specification, is new.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a kit for screening for modulators of a motor protein comprising a protein comprising SEQ ID NO: 2, 4, 6, or 8 which has microtubule stimulated ATPase activity, and instruction for testing for ATPase activity of the protein.

WIDER DISCLOSURE - Disclosed are: (a) methods to identify candidate

agents that bind to a target protein or act as a modulator of the binding characteristics or biological activity of a target protein; (b) modulators of the target protein; and (c) methods of treating cellular proliferation disorders such as cancer, hyperplasias, restenosis, cardiac hypertrophy, immune disorders and inflammation, for treating disorders associated with kinesin-like DNA binding protein (**KID**) and for inhibiting **KID**.

BIOTECHNOLOGY - Preferred Kit: The protein comprises SEQ ID NO: 2, 4, 6, or 8. The kit further comprises reaction tubes, a stationary multiwell plate, preferably a 384-well microtiter plate, or an enzyme system for monitoring ADP or phosphate level, where the enzyme system comprises pyruvate kinase and lactate dehydrogenase or a luciferin-luciferase system. Preferred Microtubule Motor Protein: The protein comprises SEQ ID NO: 2, 4, 6 or 8.

USE - For screening for modulators of a motor protein useful for treating cellular proliferation disorders such as cancer, hyperplasias, restenosis, cardiac hypertrophy, immune disorders and inflammation, for treating disorders associated with **KID** and for inhibiting **KID**, for treating autoimmune disease, arthritis, graft rejection, inflammatory bowel disease, and proliferation induced after medical procedures including surgery, angioplasty and the like. The methods are also useful for diagnostic applications.

EXAMPLE - No suitable example given.(26 pages)

L17 ANSWER 3 OF 3 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2001-02111 BIOTECHDS
TITLE: Producing human mitotic kinesin protein excluding **Kid** containing motor domain useful in screening assays, involves expressing nucleic acid encoding the protein in bacterial cell and purifying the protein;
vector-mediated gene transfer and expression in Escherichia coli
AUTHOR: **Beraud C**; Ohashi C; Sakowicz R; Wood K; Vasiberg E; Yu M
PATENT ASSIGNEE: Cytokinetics
LOCATION: South San Francisco, CA, USA.
PATENT INFO: WO 2000063353 26 Oct 2000
APPLICATION INFO: WO 2000-US10870 20 Apr 2000
PRIORITY INFO: US 1999-295612 20 Apr 1999
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2000-672730 [65]
AB Producing human mitotic kinesin protein excluding **Kid**, containing motor domain, by expressing a nucleic acid encoding the protein in a bacterial cell and substantially purifying, is new. Also claimed are: a substantially pure unglycosylated protein excluding **Kid** and containing a motor domain; a bacterial cell (e.g. Escherichia coli) containing a nucleic acid encoding a kinesin such as chromokinesin, BimC, HSET, Kif15, Kin2 or Kif1A; a substantially purified unglycosylated protein such as K335, Q475, D679, FL1, P166, H195, FL2, E433, R494, E658, L360, K491, S553, M329, T340, S405, V465, T488, M1, M2, M3, M4, M5, M6, FL3, A2N370, A2M511, K519, E152.2, Q151.2, Q353 or M472; and an assay to identify a candidate agent which binds to the protein. The human mitotic kinase protein is useful in screening assays to generate polyclonal and monoclonal antibodies that are useful as blocking peptides and in therapeutics. The protein also permits drug designing and is used in screening assays for compounds that modulate kinesin activity. (51pp)

=> d his

(FILE 'HOME' ENTERED AT 15:22:15 ON 08 FEB 2005)

```
     FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS,
     LIFESCI' ENTERED AT 15:22:55 ON 08 FEB 2005
L1          8658 S MOTOR (A) PROTEIN?
L2         15091 S KINESIN?
L3          4153 S L1 AND L2
L4           722 S HUMAN AND L3
L5       6911768 S CLON? OR EXPRESS? OR RECOMBINANT
L6           334 S L4 AND L5
L7         10363 S "KID"
L8             6 S L6 AND L7
L9             3 DUP REM L8 (3 DUPLICATES REMOVED)
L10           52 S "KINESIN-LIKE DNA BINDING PROTEIN"
L11           22 DUP REM L10 (30 DUPLICATES REMOVED)
L12       338489 S ATPASE?
L13           72 S L6 AND L12
L14           53 DUP REM L13 (19 DUPLICATES REMOVED)
                 E BERAUD C/AU
L15          490 S E3
L16            3 S L7 AND L15
L17            3 DUP REM L16 (0 DUPLICATES REMOVED)
```

	L #	Hits	Search Text
1	L1	379	motor adj protein$2
2	L2	760	kinesin$2
3	L3	205	l1 same l2
4	L4	703114	clon$3 or express$3 or recombinant
5	L5	106	l3 same l4
6	L6	1436	"KID"
7	L7	0	l5 same l6
8	L8	0	l3 same l6
9	L9	7	"kinesin-like DNA binding protein"
10	L10	6404	ATPase$2
11	L11	12	l6 same l10
12	L12	254	BERAUD
13	L13	5	l6 and l12

	Issue Date	Pages	Document ID	Title
1	20040722	27	US 20040142397 A1	Novel motor proteins and methods for their use
2	20030306	19	US 20030044900 A1	Human kinesins and methods of producing and purifying human kinesins
3	20040713	26	US 6762043 B1	Motor proteins and methods for their use
4	20030408	74	US 6544766 B1	Human kinesins and methods of producing and purifying human kinesins
5	20020514	26	US 6387644 B1	Motor proteins and methods for their use

	Issue Date	Pages	Document ID	Title
1	20040916	77	US 20040180048 A1	Neuronal and retinal gene expression patterns
2	20040722	27	US 2004142397 A1	Novel motor proteins and methods for their use
3	20040415	337	US 20040072160 A1	Molecular toxicology modeling
4	20040226	259	US 20040038207 A1	Gene expression in bladder tumors
5	20030306	19	US 20030044900 A1	Human kinesins and methods of producing and purifying human kinesins
6	20040713	26	US 6762043 B1	Motor proteins and methods for their use
7	20030408	74	US 6544766 B1	Human kinesins and methods of producing and purifying human kinesins
8	20021008	35	US 6462186 B1	Human ATPase proteins and polynucleotides encoding the same
9	20020514	26	US 6387644 B1	Motor proteins and methods for their use
10	20020101	227	US 6335170 B1	Gene expression in bladder tumors
11	19990406	87	US 5891628 A	Identification of polycystic kidney disease gene, diagnostics and treatment
12	19960813	24	US 5545626 A	Method of treating glaucoma with oligonucleotides

	Issue Date	Pages	Document ID	Title
1	20040722	27	US 20040142397 A1	Novel motor proteins and methods for their use
2	20031127	46	US 20030219797 A1	Statistical modeling to analyze large data arrays
3	20030918	259	US 20030175771 A1	Human Transcriptomes
4	20030306	202	US 20030044783 A1	Human genes and gene expression products
5	20030227	122	US 20030040089 A1	Protein-protein interactions in adipocyte cells
6	20040713	26	US 6762043 B1	Motor proteins and methods for their use
7	20020514	26	US 6387644 B1	Motor proteins and methods for their use